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HISTORY
OF
SHIPPING SUBSIDIES

BY
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PREFACE

The historical part of the following study was undertaken in 1899 with the intent to discover, if possible, a statistical application of Professor Alfred Marshall's theory of bounties as applied to industries of increasing return. It soon became obvious that the statistical material obtainable, in the shipping industry at least, is utterly inadequate to meet the requirements of such a study. Statistics of varying degree of accuracy can be obtained in unlimited quantities, but the statistics necessary to a mathematical study of the effects of a bounty to American shipping are totally wanting. I have thought it not entirely useless to write a brief history of shipping subsidies in all the more important countries, because such a history is convenient for reference and comparison. Statistics have been used whenever they seemed not altogether useless. In many cases they were useful only to show the fallaciousness of the ordinary use of statistics. In fact the greatest value of the historical part of this work is to show that the broad generalizations so frequently made as to the effects of bounties are without foundation, because it is impossible to isolate the economic effects of bounties from those of other economic causes.

The longer I labored with the statistical-mathematical method, the more I became convinced of the limitations of this method. A criticism of the scientific arguments for bounties is given in Part II. Some of the more important popular arguments for shipping subsidies are reviewed, as well.

PART I

HISTORY OF SHIPPING SUBSIDIES

GREAT BRITAIN

INTRODUCTORY

The advocates of government aid to shipping refer to Great Britain as the foremost example of a subsidy giving power, and ascribe the supremacy of the British merchant fleet to the policy of giving liberal subsidies to steamship companies: the opponents of this policy use the same facts to prove that the merchant marine thrives best without subsidies. They assert that Great Britain gives no subsidies and has a flourishing merchant marine. On the other hand, France and Italy give heavy subsidies and their shipping interests are not prosperous. Without further investigation, in fact without testing the accuracy of these assertions, the conclusion is drawn that subsidies to shipping are harmful.

Without entering into the discussion here of protection vs. *laissez faire*, we will gather the facts of British policy and then attempt to discover, if it be possible, the effects of this policy on the growth of the British merchant marine. A policy of favoritism toward shipping was begun in Saxon England¹, and continued more or less consistently down to the time of Cromwell, but the monopolistic advantages granted to British ship owners by the statutes of Richard II and later sovereigns had little effect because the laws were so laxly enforced. It was not until the Navigation Acts under Cromwell's

¹ Blakemore, *The British mercantile marine*, pp. 1-2.

Protectorate (1650-51) that protection by means of prohibiting foreign vessels to take part in the strictly English trade, was vigorously applied. The effect upon the Dutch, who were at that time the carriers of the sea was immediate and disastrous. There is no means of learning how much it cost Great Britain to take possession of her foreign and colonial trade in this way. Directly and indirectly the costs were enormous, but the results were tremendous and no one can maintain that the ends did not justify the means.

The first direct bounty to shipping was granted in the reign of Elizabeth, when Parliament gave a bounty of five shillings per ton to every ship above 100 tons burden. The law was revived in the reign of James I.

In 1626, the law was changed so as to apply only to vessels of 200 tons or over. The statute, 14 Car. II, (1662) c. 11, granted one-tenth of the customs dues on the vessel's cargo for the first two years to every vessel of $2\frac{1}{2}$ or 3 decks carrying thirty guns. Under 5 and 6 William and Mary (1694), the time was extended to three years. These bounties were in the nature of the modern admiralty subventions, for the purpose of encouraging the construction of larger, swifter, and more efficient vessels for use in war. There is no reason to suppose that these early bounties had any noticeable effect on ship construction.

During the latter half of the eighteenth century, the Parliament systematically subsidized vessels engaged in the fisheries as a means of training sailors for the royal navy and the merchant marine. So-called bounties for the catching and curing of fish had existed from the time of William and Mary, but these payments were in the nature of drawbacks for the salt taxes. In 1750, Parliament granted a bounty of 30s. per ton to decked

vessels of 20 to 28 tons, engaged in the white herring fisheries. Adam Smith discussed the effects of the fishing bounties in Book IV, ch. V of his "Wealth of nations." He says that from 1771 to 1781, the tonnage bounties for the herring buss fishery amounted to £155,463, 11s, or 12s. 3 3/4d. per barrel of merchantable herrings. In 1759 the bounty to vessels engaged in the white herring fishery was 50s. per ton. The whole buss fishery of Scotland brought in only four barrels of sea sticks (dried herrings). In that year every barrel of saleable herrings cost the government in bounties alone £159, 7s. 6d. Smith says, "The bounty to the white herring fishery is a tonnage bounty and is proportional to the burden of the ship, not to her diligence and success in the fishery; and it has, I am afraid, been too common for vessels to fit out for the sole purpose of catching, not the fish, but the bounty." After showing the costliness and inefficiency of the bounty, he says that it may perhaps be defended on the ground of contributing to the national defense by increasing the number of sailors and ships, at less cost than the keeping of a large standing navy. Here again the question of the bounties concerns the war navy and not the merchant marine. It is very doubtful, however, if the sums paid in bounties to the fisheries did actually contribute to the power of the English navy. The fishing vessels were small and of little use in war even in those days. It is true that more sailors were given employment, but their numbers were insignificant compared with the great numbers of men needed to man the British navy during the wars of that period. The cost of encouraging the fisheries was so greatly out of proportion to the results obtained that we may be very

certain that the British nation received but a meager return for its extravagant outlay. In all probability much more would have been accomplished toward building up the navy by expending the amounts directly in maintaining war vessels.

It is worth noting that, in the Parliamentary debates upon the measure first granting these fishing bounties, no mention was made of the patriotic intention to build up the British merchant or war marine. The promoters of the bill of 1750 were interested in the fisheries and they asked support for their measure solely on the ground of the great national benefits to be reaped by cultivating the fisheries. Bitter complaints were made against the Dutch, because of their success in this industry.¹

During this period England paid heavy bounties to the cod and whale fisheries of New Foundland and Labrador. Throughout the reigns of George II and George III, we find such fishing-bounty legislation. The effects of all these bounty acts are too slight to deserve any special investigation or discussion. The same is true of the bounties on naval stores, granted under William and Mary, and continued till the reign of George III.

Great Britain has never granted general navigation bounties, and, with the exception of the bounty of five shillings per ton for vessels above a certain tonnage granted in the reign of Elizabeth, no general construction bounties have ever been granted by the British government. When mention is made of British shipping subsidies, the postal subventions are invariably meant.

¹ Hansard's Debates, vol. 14, p. 762, *et seq.*

POSTAL SUBVENTIONS

The North American Mails. The system of ocean mail subsidies is commonly said to have originated with Mr. Samuel Cunard, though, as we shall see, this is not strictly true. Because of its importance in the history of the development of steam-navigation, however, the Cunard line will be treated first in order among the subsidized mail lines.

In 1838, the Board of Admiralty invited tenders for a mail service between Liverpool, Halifax and New York. Two tenders were received; one by the Great Western Steamship Company for a monthly service to Halifax for £45,000 a year, the other by the St. George's Steam Packet Company for a monthly service between Cork, Halifax, and New York for £65,000 a year.¹ Neither offer was accepted, as the government desired a bi-monthly service. Mr. Samuel Cunard then (1838-9) made private arrangements with the Board of Admiralty for a seven years' contract to carry British mails between Liverpool, Halifax, Quebec and Boston, twice a month, for an annual sum of £60,000, less £4,000 for making only one voyage in each of the months November, December, January and February.² The contract required Mr. Cunard to furnish four ocean steamers and two small river steamers on the St. Lawrence.

In 1841, the subsidy was increased to £80,000 and the number of ocean steamers was increased to five. In 1846, the subsidy was arbitrarily increased to £90,000 but was soon reduced to £85,000 on account of the abandonment of one of the boats on the St. Lawrence.³

¹ Parliamentary papers, 1846, vol. 15, no. 563, and 1849, vol. 12, no. 571, pp. 132-3.

² See Parliamentary papers 1839, vol. 46, no. 566.

³ *Ibid.*, 1849, vol. 12, no. 571, p. 134.

Mr. W. S. Lindsay says of these contracts¹: "Although no unfairness was alleged against Mr. Cunard and his partners, and no valid charges could be raised against the manner in which the mail services were performed, the Great Western Company had sufficient influence to obtain a parliamentary inquiry. They asked it first on the broad grounds (which have since been frequently raised, and now with much more show of justice than then), that the public was taxed for a service from which one company alone derived advantage, and which could be equally well done and at less cost if mails were sent by all steamers engaged in the trade, each receiving a certain percentage on the letters they carried; and secondly, because their company had been the first in the trade and had incurred great expense and risk in developing steam communication between Great Britain and the United States."

The select committee appointed by Parliament (in 1846), to inquire into the mail contract with the Cunard company, reported that, "the arrangement has been concluded on terms advantageous to the public service, and have been most efficiently performed by Mr. Cunard. But your committee do not wish to express any opinion whether a more advantageous one might not have been entered into, had the tender been thrown open to public competition. Your committee, however, cannot but regret that the above arrangements involve consequences injurious to the Great Western Steamship Company; and considering the meritorious character of the services rendered by the latter company, and its priority of establishment on the New York line, will be glad if, on any future extension of the Royal

¹ History of merchant shipping, vol. IV, p. 184.

Mail service, it receives the favorable consideration of the government.”¹

In the testimony before this select committee it was brought out that the Great Western Company had offered to perform the service on practically the same terms as Mr. Cunard, but their offer was rejected and later the contract with Mr. Cunard was made privately with no attempt to have a public letting. Later on the Great Western Company offered to do the service for one-half the amount paid the Cunard Company, but the offer was rejected on the ground that the Cunard Company had a previous claim. The payments to the Cunard Company put the Great Western line at a considerable disadvantage, so that it was only by superior enterprise and management that it was able to survive. This was the more true because the payments were excessively high in comparison with freight charges in general.²

In order to meet the competition of the Collin's line,³ Mr. Cunard added four new steamers in 1848 to run directly between Liverpool and New York, in consideration of a subsidy of £145,000 a year for forty-four voyages, being £3,925 per voyage, or 10s. 6½*d.* a mile. In 1851, the subsidy was again increased, and in 1852 a modified contract for ten years was made providing for £173,340 for fifty-two round trips, or at the rate of 11s. 4½*d.* a mile.⁵

A select committee of Parliament appointed in 1852

¹ Report of select committee, Parl. papers, (1846), vol. 15, no. 563, p. 3.

² See Parl. papers, 1846, vol. 15, no. 563, ques. 14.

³ *Ibid.*, 1849, vol. 12., no. 571, pp. 133-4.

⁴ *Ibid.*, 1849, vol. 12, no. 571, and 1851, vol. 51, no. 406.

⁵ *Ibid.*, 1852-3, vol. 95, no. 195, p. 19; 1861, vol. 12, app. 265-272.

to investigate the mail packet contracts reported¹ that the cost of the North American service did not seem excessive, but recommended that all contracts thereafter be let at public bidding. This sensible suggestion was not always followed by the government.

But Mr. Cunard did not confine his activities to the securing of snap contracts by private and unpublished agreements. In 1853, he succeeded by great effort in defeating a petition for a charter of limited liability entered by the London, Liverpool and North American Screw Steamship Company in order to start a line to compete with Cunard.² The Board of Trade refused to grant the asked-for charter, although they had already granted similar charters to the Royal West India Mail, the Pacific Steam Navigation Company, the Peninsular and Oriental Company and many other lines.³ Mr. Cunard urged that it would be unjust to set up a limited liability company to compete with those who had embarked their own capital in trade, because these companies were formed by persons who know nothing of the business, and who will be aware that individuals can not stand out against them with their limited liability.⁴ On the other hand, it was shown that, so far as the trade between Liverpool and New York was concerned, Cunard possessed a monopolistic advantage until the advent of the American (Collins) Line. In 1844, Cunard reduced freight rates from £7 to £3 10s. opposing the "Great Western" steamer⁵; in 1848, he reduced rates from £7 to £2 10s. when the steamer

¹ See Parl. papers, 1852-3, vol. 95, no. 195.

² *Ibid.*, 1852-3, vol. 95, no. 730.

³ Parl. papers, 1854, vol. 65, no. 299.

⁴ *Ibid.*, 1852-3, vol. 95, no. 730, pp. 31 and 56.

⁵ (The Great Western Co. was obliged to go out of business later.) See *Ibid.*, p. 66.

"United States" was at Liverpool.¹ By Mr. Cunard's own statement he reduced freight and passenger rates by one-half when the Collins line came on.² From these and other facts set forth by the petitioners it is evident that the subsidies granted to Mr. Cunard injured the development of English steam shipping on the North Atlantic, by deterring some enterprises and by enabling Mr. Cunard to club others out of the business.³ As we have already seen, Mr. Cunard did not originate steam transport across the Atlantic. In fact, the Cunard Company never originated anything but the art of securing mail contracts by private agreement on favorable terms. Mr. Cunard consistently refused to make improvements until forced to do so by competition. The first iron screw steamer ("Great Britain") for trans-Atlantic trade was built in 1843 by the Great Western Company, and in 1850, the Liverpool and Philadelphia Steamship Company began running screw steamers regularly. It was not until December, 1852, that the Cunard people began to run a screw steamer⁴, not on the mail routes however. Their first iron ship was built in 1855, and they did not abandon the antiquated paddle wheels on the mail steamers until 1862.⁵

Complaints and criticisms were not confined to the home country. In 1853 and again in 1856, the Governor General of Canada protested against the Cunard subsidy on the ground that in consequence the Canadian government was obliged to pay a subsidy to a line of

¹ Parl. papers, 1852-3, vol. 95, no. 730, p. 55.

² *Ibid.*, p. 7.

³ See especially Parl. papers, 1852-3, vol. 95, no. 730, pp. 44-50.

⁴ Parl. papers, 1852-3, vol. 95, no. 730, p. 35.

⁵ Frye : History of North Atlantic shipping, p. 55-111.

steamers plying on the St. Lawrence.¹ Again in 1859 the Canadian government protested against the Cunard contract, declaring that it was showing favoritism and thus injuring trade. No heed was given to these protests.

In 1857, Mr. Cunard asked for a five year extension of his contract on the plea that the Americans were about to build larger and more powerful steamships.² The Lords of the Admiralty recommended that the Treasury accept the proposal.³ The Duke of Argyll, who was then postmaster general, urged the Treasury to reject it and throw the service open to competitors. He showed clearly that the policy of giving mail contracts to individuals on their own terms was both costly to the state and injurious to shipping.⁴ He strongly recommended the policy of public letting laid down by the select committee of 1853; but in spite of his protest Cunard obtained what he wanted.⁵ The contract provided the same amount (£173,340) for the Halifax and New York route and an additional £3000 for a monthly service between New York and Nassau in the Bahamas. It was to continue from June 24, 1858 to January 1, 1867.

It is a noteworthy fact that, during the time while the Cunard line was enjoying monopoly of government favor, its rivals distanced it so far as improvements were concerned and competed successfully despite or because of governmental favoritism. The mail pay-

¹ Parl. papers, 1859, sess. 2, vol. 22, no. 184, p. 13.

² *Ibid.*, 1859, sess. 2, vol. 22, no. 184, p. 42, *et seq.*

³ *Ibid.*, 1859, sess. 2, vol. 22, no. 184.

⁴ *Ibid.*, 1859, sess. 2, vol. 22, no. 184, pp. 43-5.

⁵ *Ibid.*, and 1861, vol. 12, no. 463, appendix no 1, North American Mails.

ments made it possible for the Cunard company to cling to an out-of-date and uneconomical type of steamer. Both the Admiralty and the Post Office departments refused to permit mail steamers to use the screw propeller until long after other lines had adopted it. As late as 1851 the Board of Admiralty condemned iron as a material for the building of hulls¹, because, as they said, it could not resist shot so well as wood. Nothing can better illustrate the danger of putting into the hands of an official class the power to determine industrial means and methods. Without government aid to inefficiency, the Cunard Company would have been compelled to adopt improvements in order to compete with other and more progressive lines. As it was, the certainty that the subsidy would be cut down or perhaps taken away stimulated the Company to progressive action. Mr. Henry Frye, in his "History of North Atlantic steam navigation" (p. 81) says "For thirty years they [the Cunard Company], never altered the saloons, the staterooms, the bill of fare, the meal hours, or any of the details. They had no bath or smoking-rooms, no piano and only an apology for a ladies' cabin. . . . In truth, for a time they seem to have fallen into the evils inherent in all monopolies; unbroken success made them over-confident and they now received a rude awakening. The White Star boats beat them not only in speed, but in comfort and conveniences, and it became evident that the halcyon days of subsidies were nearly over." Mr. Thomas Rhodes says,² "Now while approving the course adopted by Mr. Cunard and admiring his success in it, I nevertheless maintain his state-created ascendancy to have been distinctly prejudi-

¹ Parl. papers, 1851, vol. 21.

² See *Engineering Magazine*, vol. 6, p. 54.

cial to the natural development of British shipping within the sphere of his activity. I go further and assert that the Cunard line has had since to pay for the unsound traditions it inherited from this era of unnatural, and therefore unsound, development. Lest it should be thought there is something inconsistent in approving a course and at the same time accounting it prejudicial, I will explain how the two might be reconciled. Let a ship owner get all he can, but, if he wishes his line to live and prosper, let him distinguish between undeniable trade earnings and the proceeds of diplomacy." Without fully approving the above sentiments, I am persuaded that the facts show that the Cunard line did receive real subsidies, concealed in the form of postal subventions, that the first effects were to help Mr. Cunard at the expense of his competitors, and that the after effects not only injured steam navigation in general, but hurt the Cunard line itself.

In 1868, the Post Office department was empowered for the first time to negotiate contracts for the mail service. The post-master general, Lord Alderly, demanded in 1866 that the contracts with the Cunard Company be terminated and the service thrown open to public competition. In his letter to the Treasury he says that, if the contract for carrying the North American mails had been let publicly in 1862 as urged by the Duke of Argyll, it is highly probable "that instead of the annual loss which had been incurred, amounting to about £100,000 a year, tenders would have been received from parties willing to carry the mails - - - for the amount of the sea postage and that, during the six years a very large saving might have been effected." To prove his statement he mentioned that Mr. William Inman offered

to carry the mails and did carry them for the sea postage only.¹

Tenders were accordingly invited in 1868 and, after a good deal of delay and difficulty, caused by the favoritism shown by the Treasury toward the Cunard line, contracts were concluded with Mr. Inman for a fortnightly service to Halifax for £750 the round trip, *i.e.*, £19,500 a year, and for a weekly New York service for the sea postage, *i.e.*, 1s. an ounce for letters, 3d. a pound for newspapers and 5d. a pound for books. The North German Lloyd also contracted to carry the mails every week for the sea postage. Mr. Cunard agreed to give a weekly service to New York for £80,000 a year. All contracts were drawn for one year.²

Mr. Inman objected vigorously to the favoritism shown by the government to the Cunard Company. He says of the New York service; ³ "I tendered to advertisement in full faith that the Post-Office had fixed the pay, and I think even now others will do it, if Cunards will not, (*i.e.*, carry mails for the sea postage only.) Our steamers are as good as Cunards', who followed our example in screws and we have performed and always been ready to perform as much service in war time as the Cunards. Any advantage given them over us can only injure the public service, because how can we, as mail carriers, have a fair trial unless both are treated alike? The age of my company (seventeen years), with as good a fleet of mail steamers as Cunards' (yet with no grant against their £176,000 a year) proves that on equal terms we should long since have been before them, or the service better than it is."

¹ Parl. papers, 1867-8, vol. 41, no. 42, p. 22.

² *Ibid.*, 1867-8, vol. 12, no. 42.

³ *Ibid.*, p. 52.

In justice it must be said that the contracts as finally agreed upon were not so flagrantly favorable to the Cunards as on the surface they appear; for the company was obliged to pay to the British Post Office all the postage received from the United States Post Office. But even with this deduction, the utter unfairness of the arrangement is evident. The excuse, that no other line offered to take the mails on any terms, is scarcely valid. The service had formerly been weekly. It was now suddenly made tri-weekly, with additional mails sent by the Hamburg-American steamers. The public would have been amply served for a time with a bi-weekly mail, and the Cunards would have been glad to come to the terms accepted by the other lines in order not to lose the very profitable business of carrying the mails. The plea made by the Cunard Company, that they had been to enormous expense in building large, swift mail steamers which would be entirely useless for any other purposes, is equally invalid. Mr. Samuel Cunard stated¹ that the first screw steamers built by him were not intended for the mail service. The records of voyages made by trans-Atlantic steamers² show that unsubsidized lines made as quick time as the Cunard liners. The subsidies received by the different steamship companies for the year 1868 were as follows³: Inman line, £23,390; North German Lloyd, £11,772; Hamburg-American (non-contract), £5,157, as against the Cunard Company's £80,000 less about £7,118, the postage received from the United States P. O. department. The amount actually earned by the Cunard Company

¹ Parl. papers, 1852-53, vol. 95, no. 730, p. 56.

² *Ibid.*, 1868-69, vol. 6, no. 106, app. 1, (A) and (B); vol. 34, no. 119.

³ *Ibid.*, 1868-9, vol. 6, no. 106, app. 1 (C).

at sea postage rates was £28,686, leaving a loss to the government of £44,196. If a private individual made such a contract, his relatives would have a guardian appointed for him. Yet the subsidy to the Cunards in 1868 was much less than half what it had been for the previous ten years.

When the Post Office advertised for tenders for the North American mail service (Queenstown-New York) in 1868, they discovered that the Inman line and the Cunard line had formed a "community of interests", agreeing not to underbid each other. They asked for a ten year contract on the basis of £50,000 fixed subsidy for a weekly service. After much discussion a contract was finally made with the Cunard Company for a bi-weekly service for £70,000, and with the Inman Line for a weekly service for £35,000, both contracts to run seven years. At the same time contracts were made with the North German Lloyd and the Hamburg-American lines to carry the mails weekly for the sea-postage.¹

A select committee was appointed by Parliament in 1868 to investigate the letting of these contracts. It reported as follows: "These contracts, no doubt, present a very favorable contrast to those entered into with Messrs. Cunard in 1858 and again in 1868; but the payments to be made when compared with those made by the American Post Office, for the homeward mails, are widely different, inasmuch as the American Post Office has hitherto paid only for actual services rendered at about half the rate of the British post-office, when paying by the quantity of letters carried; and Mr. Scudmore and Mr. Inman state that a considerable portion of the cost of the American mails to England

¹ Parl. papers, 1867-8, vol. 41, no. 42.

is, in fact, borne by the British Post Office, although the receipts are equally divided between the two offices."¹

The committee recommended that the contracts with the Cunards and Inman be disapproved in the following language; "Under all circumstances we are of the opinion that, considering the already large and continually increasing means of communication with the United States, there is no longer any necessity for fixed subsidies for a term of years in the case of this service; and having regard for the fact that a weekly service has been carried on by Mr. Inman in 1868 in consideration of receiving the sea-postage only, to the difficulties which these contracts would for eight years throw in the way of any great reduction of postage, we recommend that the contracts with Messrs. Cunard and Mr. Inman's Company be disapproved, compensation being made, if necessary, on the basis of the contracts for services already performed in the past year."

The recommendations of the committee were disregarded by the government, and the contracts were duly ratified.

In 1875, the postmaster-general applied the principle of payment according to weight throughout to the mails from Great Britain to New York. Preference was given, however, to British ships, which received 4s. per pound for letters, and 4*d.* for printed matter, while the North German Lloyd received only 2s. 4*d.* for letters and 2*d.* for papers. An arrangement was made in 1887, by which the Cunard and Oceanic lines were to carry all mails except specially directed letters. The compensation to British vessels, whether under contract or not, was reduced to 3s. a pound for letters, and 3*d.* a pound for printed matter, while foreign vessels were

¹ Parl. papers, 1868-9, vol. 6, no. 106, p. v.

allowed only the international postal rates,¹ (5 francs per kilogram, or about 2s. per pound for letters and 50 centimes, or about 2½*d.* per pound for printed matter). This method of payment prevailed until 1902.

Mr. Thomas Rhodes says of the British mail subsidies²: "It is impossible to say definitely what amount of aid the British government has offered to national shipping interests. But if the amount was known, it would be equally impossible to estimate the effects of such aid with sufficient exactness for the result to be worth serious consideration. The so-called subsidies granted are on record, and so are the successes and failures which attended the undertakings associated with them. All this, however, amounts to nothing. Had the pecuniary support to the steamship companies been given in stricter accordance with the term employed, as the system is at present, and had payment for service rendered not been blended and confused with payment for the supposed or real founding of imperial interests, there would have been data for theorists to conjure with. As it is, the figures would form a very unsatisfactory base to build even a theory upon. It is the tale of well nigh every inquiry connected with political economy: the circle is 'vicious' and arguments *pro* and *con* might be sustained forever. Nothing remains therefore but to treat the subject 'historically'."

This is indeed a cheerless alternative. Historical and statistical studies in economics are not especially fascinating, even when pursued with the sustaining hope of ultimately arriving somewhere; but to attack a

¹ Parl. papers, 1887, vol. 49, no. 165.

² T. Rhodes: "Effects of British subsidies," in *Engineering Magazine*, vol. 6, p. 54, *et seq.*

historical problem of such difficulty with no prospect of ever laying a foundation solid enough "to build even a theory upon" requires more than human courage. If historical economics is to be a mere chronology of economic happenings, with no attempt to establish generalizations, then it is absolutely useless. It may be impossible to establish indisputable connections between the prosperity or decline of shipping and any given economic policy, but to show this impossibility is worth something. Imperfect as the data may be, they are perhaps sufficient to answer the questions whether Great Britain is or ever was committed to the policy of giving subsidies for purposes of extending commerce and building up the merchant marine.

A study of the British mail subsidies, to be of any value, must get at the motives of the government in granting subsidies; discover if the payments were excessive in consideration of the services rendered; and show, as far as possible, the effect of the payments upon shipping and commerce.

It is frequently asserted that the subsidies paid by Great Britain for the trans-Atlantic service are and always have been merely payments for carrying the mails at minimum cost. The fact that foreign vessels are willing to carry the mails for the international postage, which is about one-third less than the allowances now given by Great Britain to British ships, shows that the mail contracts are not mere business arrangements, made to secure the cheapest and best possible service. From 1858 to 1868, when the Cunard line received more than £176,000 a year for a weekly trans-Atlantic service, the mail payments must certainly have been very remunerative. The mail service had been doubled, but the payments had increased nearly three-fold since 1840.

The question is not, did Great Britain pay real subsidies? The questions to be answered are, What did Great Britain aim to accomplish with subsidies? and Did the subsidies accomplish what was expected of them?

The attitude of the British government clearly indicates that the subsidies were first given with the intention of securing better communication with Canada by means of British ships. But there is no reason to suppose that the government had any clear, far-sighted policy intended to build up a British freight-carrying marine. The subsidies were at first granted solely to enable the government to employ British ships to carry British mails. It was not till later that the government, and to some extent the public, adopted the idea of using the mail subsidies to develop commerce and shipping and to increase the available fighting force of the navy.

It is idle to speak of the "cost of service" under the first mail contracts, as there was no basis upon which to reckon the costs. The amount claimed by Mr. Cunard was the difference between the estimated cost of maintaining the line and the estimated income from freight and passenger traffic. Both these fictitious amounts were at first mere guesses. The difference was fixed by an estimate of what the government would consent to pay rather than by the probability of a deficit. The principle upon which the payments were based was "value of service" to the government, and not "cost of service" to the undertaker. By many it is doubted if the service was worth the amount paid for it. Probably the contracts could have been let more advantageously if the government had acted more openly and less hastily. The larger payments later made for increased service had no relation to increased costs of service.

The assertion so earnestly maintained by Mr. Cunard and his partners, that the value of the service to the government far exceeded the sums paid, cannot justify the expenditures, for the service could have been renewed for half the amount paid the Cunard company. The payments were in large part concealed bounties. The conclusion cannot be avoided that here we have the familiar phenomenon of exploitation of government by private enterprise.

The postal subsidies did not first establish steamship communication between England and North America. As we have seen, the subsidies hindered rather than helped the natural development of steam navigation. The payments helped the Cunard company to make larger profits, and probably made possible the establishment of a *regular* line of steamers earlier than would otherwise have been the case. But in the same degree as the subsidies encouraged Mr. Cunard to build and run steamers, they discouraged others from entering the field. The alleged benefits to the war navy are equally fictitious. In every war the great body of transports have been furnished by unsubsidized lines. As cruisers, the fastest trans-Atlantic liners would be worthless in a real naval war. The select committee of 1853 condemned emphatically the attempt to make war vessels of the mail steamers.¹ In 1902, the British Board of Admiralty declared that the payments to steamship companies by that board were worse than wasted.

The formation of the International Mercantile Marine Company, October 1, 1902, gave the British public a great fright. The English papers were filled with dismal prophecies of the speedy decay of British prestige in over-sea shipping. The government was moved by

¹ Parl. papers, 1852-3, vol. 95, no. 195, p. 5.

the popular clamor to interfere and prevent the Cunard Company from joining the combine. To effect this, the government agreed to pay a fixed subsidy of £150,000 a year in lieu of the present admiralty subvention of about £15,000 a year, on condition that the Cunard Company build two liners having a speed of 24 to 25 knots. The government is to advance the funds necessary to build these vessels at $2\frac{3}{4}$ per cent. interest payable in twenty years. The Company agreed never to become denationalized. The mail pay is to remain as before, so that the total annual subsidy to the Cunard Company, after the two new fast liners are built, will be about £200,000.

In speaking of the new subsidy, Mr. Gerald Balfour, president of the British Board of Trade, said: "This sum may, perhaps, appear at first sight a somewhat large one; but I can assure you that the point has been most carefully considered, and that we have come to the conclusion that this sum is not more than a fair remuneration for the service to be rendered. To the principle of paying a subsidy in excess of the remuneration fairly due to the services rendered by any shipping company the government is perfectly opposed. Such subsidy we regard as merely bounty in disguise, and to the principle of giving bounties we are resolutely opposed." What the basis is for computing the value of "the services to be rendered", we are left to guess. The only new obligation put upon the company is the building of two new vessels of unrivaled swiftness, and it might be supposed that the government loan was sufficiently favorable to cover all extra expenses and risks in this attempt to excel the fast German liners. The only discernible service to be rendered by the company in return for the £150,000 subsidy is to carry the British flag

across the Atlantic at high speed. In fact, the British government seems to have been frightened into the old policy of giving extravagant payments, ostensibly for the post, but really for the maintenance of British supremacy of the seas. The new subsidy as conditioned will at first enable the company to offer an unrivaled service so far as velocity is concerned. Whether this artificial stimulus will work to the ultimate advantage of the company may well be doubted. Real subsidies to individual lines tend to foster inefficiency, and, as we have seen, in the end injure the subsidized lines as well as their rivals. True, conditions have changed. Free competition is greatly limited by great companies and combinations. Other nations give large shipping subsidies, and, as the maintenance of communications with her colonies is of first importance to England, she may be obliged to pay large subsidies in order to keep these communications in her own hands. But the necessity for such action seems to lie far in the future. The danger of foreign competition in shipping has been greatly exaggerated and the Cunard Company has shrewdly taken advantage of the Briton's pride in the British merchant marine, and coined its "patriotism" into good pounds sterling.

The agreement between the British government and the International Mercantile Marine Company lays down that the British companies in the combination shall be treated as other British shipping companies in respect of naval, military, or postal services so long as the said companies shall continue to be British. A majority of the directors in these companies must be British, their ships must be officered by British officers, and manned "in reasonable proportion" by British crews. Their ships may not be transferred to foreign registry without

the written consent of the President of the Board of Trade, "which shall not be unreasonably withheld". The Admiralty may hire any British ship in the combine at any time. At least one-half of the new tonnage built for or acquired by the International Mercantile Marine Company in each successive period of three years, including "a reasonable proportion" of the faster vessels, shall be allotted to the British companies and registered as British ships. The agreement is to be in force for twenty years from September 27, 1902 and thereafter subject to five years' notice on either side; but the British government may terminate the agreement at any time if it deem that the company is pursuing a policy detrimental to British shipping or commerce.

British ship owners complain that their government does nothing to help shipping, but, on the contrary, subjects British ships to onerous and burdensome regulations as to loading, victualing, etc., from which foreign ships are exempt. The testimony before the select committee on steamship subsidies in 1901 is full of these charges. It is true that, for a time, the government did not trouble itself much about British shipping because British shipping so greatly surpassed all rivals that it asked only to be let alone. Now that other countries are beginning to compete successfully over certain routes, the British ship owners cry out for governmental interference, and the government shows itself ready to adopt heroic measures if necessary to protect the merchant marine. However the new developments may please the British public in general, they only increase the distress of the small ship owners by encouraging the progress of centralization in the sea transportation business.

The Galway Line.—One of the most remarkable ex-

amples of the danger of over-stimulation to shipping enterprise by subsidies was the Galway line. This company contracted in 1860 to carry the British mails from Galway, Scotland to Portland, Boston or New York *via* New Foundland, agreeing to deliver despatches from the United Kingdom to British North America and the United States in six days, casualties excepted. They ordered four new vessels that were to astonish the world by their speed. These vessels proved to be weak and slow. One was lost and two others were disabled. When the Collins Line failed, the Galway people purchased the "Adriatic", the swiftest and strongest vessel then afloat. This was the only vessel which could make the passage in the required six days. Naturally, the company failed completely, involving all the investors in ruin. In this instance the subsidy-enthusiasm did great harm. Men of little or no experience in shipping affairs were tempted to embark in a hazardous venture on the faith that the government would back them and stand any losses they might meet. Instead of encouraging shipping, this subsidy craze discouraged legitimate enterprise.

West Indian and South American Mails. The Royal West India Mail Steam Packet Company is another line that has drawn heavy mail subsidies from the British government. It was established in 1840 and was granted a subsidy (1842) of £240,000 a year for traversing a distance of 684,816 miles.¹ There was no advertisement for bids on this contract or on any subsequent contract made with this company up to 1874. The company was badly managed and during the first year lost £79,790. The government then reduced the mileage to 392,973 miles, leaving the subsidy as be-

¹ Parl. papers, 1849, vol. 12, no. 571.

fore, and exonerated the company from several requirements named in the original contract.¹ This favoritism was entirely unwarranted, for there was not the same necessity for keeping up frequent and regular communications with the British West Indies as in the case of the East Indies. Besides the service could have been secured in all probability at less cost by public letting, though the select committee of 1849 expressed a contrary opinion.² Mr. Lindsay states that in some years the amount paid for carrying the West Indian mails exceeded the sum received for postage by £183,938.³ Besides the service was slow, irregular and generally unsatisfactory.⁴

In 1852 the contract was renewed for a term of eleven years. The subsidy was raised to £270,000 while the mileage was increased to 547,296 sea miles, thus reducing the rate per mile from 12*s.* 2*d.* to 9*s.* 10*d.* At the same time it was required that the average speed of six knots per hour be increased to nine knots, and that five large new steamships be built.⁵ In 1864 the subsidy was reduced to £172,914 and the speed requirements increased to ten and a half knots per hour.⁶ In 1868 the contract was extended till 1874 with the provision that the government was to receive one-half of all profits above eight per cent.⁷

In 1874 the West Indian mail contract was thrown open to public bidding, and the Royal Mail undertook

¹ Parl. papers, 1852-3, vol. 95, no. 195, app. K; Lindsay, vol. IV, West India mails.

² *Ibid.*, 1849; vol. 12, p. 3.

³ Lindsay, vol. IV, p. 296.

⁴ Parl. papers, 1849, vol. 12, no. 571, pp. 170, 185-8.

⁵ *Ibid.*, 1852-3, vol. 49, no. 318.

⁶ *Ibid.*, 1863, vol. 31, no. 3217.

⁷ *Ibid.*, 1867-8, vol. 41, no. 375.

the same service for £84,750¹,—less than one-half the amount received by the company since 1864, and not much more than one-third the original subvention. They afterwards received an additional £2000 per annum on account of new steamers built. Mr. W. S. Lindsay says :² “There can be no doubt that the original vessels of this company were well adapted for one of the objects government had in view,—the creation of a fleet of a class of large and strongly built merchant-steamers which could be made use of in the event of war.” It is more than likely that vessels better adapted for fighting could have been built or purchased more cheaply. The select committee of 1853 condemned the mail vessels built after the plans of the Board of Admiralty as inefficient in war or peace, and this opinion was frequently expressed by the Post Office department. Even the friends of subsidy do not claim that the subsidies to the Royal West India Mail Company helped English commerce and shipping perceptibly.

The later contracts with the company are more favorable to the government. In 1878 the subsidy was reduced to £80,000. In 1890 the service was made fortnightly with a payment of £85,000. Since 1895 the subsidy has been £80,000.

The Pacific Company.—In 1840 the Pacific Steam Navigation Company received a charter from the British Parliament, and a small subsidy for carrying the mails between Central and South American ports. The object of the subsidy was to extend British commerce with the countries of that region. The company's steamers touched at no British ports so there could be no imperialistic reason for the subsidy. The first year

¹ Parl. papers, 1874, vol. 35, no. 166.

² Lindsay, History of merchant shipping, vol. IV, p. 302.

the company lost £72,000. It kept up operations, however, with the aid of government and even attained some degree of prosperity; but it increased the number of its ships beyond the needs of trade and the result was depression and loss.¹ The company recovered from this period of depression and is now in a prosperous condition. For years it carried the mails to Brazil and the River Platte in conjunction with the Liverpool, Brazil and the River Platte Company for the sea postage. In 1900 a contract was made whereby the company receives a fixed subsidy of £32,500 for a monthly and bi-monthly service to South America and the Falkland Islands.

The Peninsular and Oriental Line.—The mails to and from Spain and Portugal were formerly carried by government Post Office packet-boats. These boats were slow and very irregular in their service. As early as 1835 the Peninsular Company made a proposal to carry the mails between England and the Peninsula. The service offered was much superior in every respect to that performed by the government packets, and at the same time much cheaper. The government, however, quite properly, decided to advertise for bids. The Peninsular Company was underbid by the British and Foreign Steam Navigation Company, and the contract was awarded to the latter. This company was organized for the purpose of exploiting the mail subsidy, but it was unable to carry out the terms of its contract, so in 1837 a contract was made with the Peninsular Company by which they agreed to carry the mails weekly for £29,600 per annum. Soon after the amount was reduced to £20,500.² Thus the Peninsular Company was engaged

¹ Lindsay, vol. IV, pp. 316, *et seq.*

² Parl. papers, 1852-3, vol. 95, no. 195, and 1851, vol. 21, app. 4.

in carrying the mails for a fixed subvention three years before the Cunard Company. It is to be noticed that the conditions and the manner of contracting were entirely different in the two cases. Mr. Cunard first secured a mail contract by private agreement and afterwards built the steamships necessary to carry out the terms of the contract. The Peninsular Company was an old and firmly established line. It was in a position to compute accurately the costs and profits of its service. This fact in itself would not guarantee the government against exploitation by the company, but by throwing the contract open to public bidding, the government put the service on a really competitive basis, for at that time there were no shipping mergers. It is true that the Peninsular Company possessed certain advantages over any possible rivals by reason of its long possession of the trade ; but these advantages were not sufficient to prevent competitors from entering the field.

The East Indian mails were at first carried by vessels of the East India Company exclusively. Later government steam packets were put on between England and Alexandria, Egypt, while the company's vessels continued the service from Suez to Calcutta and Bombay. In 1840 the Peninsular Company contracted to carry the mails between England and Alexandria for £34,200 per annum, agreeing to carry government officers at reduced rates and Admiralty packages free.¹ A few years later (1845) the Peninsular Company became the Peninsular and Oriental Company (commonly known as the P. and O.) and took the contract for carrying the mails between Suez and Calcutta for £115,000 per annum or about 20s. per sea mile traversed.² The

¹ Parl. papers, 1851, vol. 21, no. 73.

² *Ibid.*, 1850, vol. 53, no. 693 ; 1851, vol. 51, no. 73 ; 1845, vol. 47, no. 376.

service was soon extended to China with an addition of £45,000 to the yearly subvention, or at the rate of 12s. per mile for the extension. The East India Company still carried the mails between Bombay and Suez, which cost £105,200 per annum, or 31s. 6d. per sea mile. The Parliamentary investigating committee of 1851 reported that the service could be done much better and more cheaply by strictly private enterprise.¹ Just at that time a vessel of the East India Company was lost with a large quantity of the mails. The government then applied to the P. and O. Company, which contracted to perform the service for £24,700 per annum or 6s. 2d. per mile,—a saving of about £80,000 a year with a much more regular and efficient service.

In 1852 the government advertised for bids for an Australian service. The P. and O. offered to give a service to Australia every alternate month in conjunction with a fortnightly service to India for a total of £199,600 per annum, to be reduced by £20,000 on the completion of the railroad across the Isthmus of Suez. The company offered to carry the mails between Point de Galle and Bombay (an annual distance of 21,864 miles) free.² The only other competitor, the Eastern Steam Navigation Company, asked £110,000 per annum to perform a monthly service to India alone, and £166,000, including the service to Australia every alternate month. When reduced to a mileage basis, the P. and O. tender was at the rate of about 6s. 6d. a mile, not counting the line between Point de Galle and Bombay, while the Eastern Company asked about 10s. a mile for the combined India-Australian service. Yet much dissatisfaction was manifested because the contract was let

¹ Parl. papers, 1851, vol. 21.

² *Ibid.*, 1852, vol. 49, no. 249; 1852-3, vol. 95, no. 195.

to the P. and O. and complaints were made of the alleged favoritism shown by the government to the company. No good grounds for these charges are apparent. The company had to fight its way against competition from the beginning. The government was sometimes harsh in holding it to the exact terms of hard contracts. At one time the government refused to relax the conditions of a contract even when the company was in distress on account of a coal famine at Eastern ports. When the company on that account believed it impossible to carry out a portion of its contracts, the government threatened to inflict the penalty of £35,000 for the failure. The price of coal at Eastern ports rose from 18s. 6d. per ton to 80s. per ton and it was difficult to obtain it at all.¹

The complaints of the colonists induced the government to make private contracts, intended to introduce competition with the postal lines maintained by the P. and O. In 1852, a contract was made with the General Screw Steam Company to convey the mails to Calcutta by way of the Cape of Good Hope for seven years at an average of £42,144 a year. In the same year, the Royal Australian Steam Navigation Company contracted to carry the mail six times a year to Australia for £26,000. Both these companies failed to carry out their agreements, and in the following year both contracts were annulled.² The severity of the government in enforcing its contracts with the P. and O. Company probably tended to keep up the cost on the Eastern routes. New companies were not attracted to compete,

¹ Parl. papers, 1852-3, vol. 95, no. 195, p. 61. Also Lindsay, vol. IV, p. 391, *et seq.*

² *Ibid.*, 1852-3, vol. 95, no. 195, pp. 32, 33 and 34-36; 1859, vol. 6, Australian and Indian mails; 1855, vol. 51, no. 10.

or if they competed, they failed to carry out their contracts. The P. and O. had to make its bids large enough to cover all possible and extraordinary emergencies. It would probably have been cheaper at first if the government had assumed this insurance against risk by not insisting on absolute penalties for non-performance of service. In the long run the effect was salutary, as it made the steamship company careful to make no offers it was not prepared to carry out, and it prevented the P. and O. Company from falling into the fatal habit of depending on the government subventions to pay dividends. It is true that the rate of compensation to the P. and O. Company for the first Indian service, whether computed on the basis of the total distance traversed or the weight of mails carried was greater than the rate first paid to the Cunard Company. The route from Suez to Calcutta was, however, nearly twice as long as the Liverpool-Halifax route; it was necessary to carry more coal relatively to the cargo; coal cost much more in Eastern ports; the profits on freight business were not so large; the Indian mails were vastly more important than the Canadian mails, and there was only the miserable service rendered by the East India Company between Bombay and Suez, while on the Atlantic, the American sailing clippers furnished the best mail service then known, between American and British ports. In addition, the P. and O. contracted to carry government officers and Admiralty packages free, which the Cunard Company did not. Very soon the rate of compensation was reduced far below that received by the Cunard Company.

A new and enlarged contract went into effect in 1853,¹ providing heavy penalties for failures and delays. The

¹ Parl. papers, 1852-3, vol. 95, no. 195, p. 15.

Admiralty was given the power to survey the company's ships and order alterations at the company's cost. At any time the government had the right to charter or buy the vessels at appraised valuations. During the Crimean War (1853-56), the British government chartered eleven of the P. and O. vessels for transports. This so crippled their fleet that they were obliged to give up the service from Australia to Singapore, thereby losing £17,475 of subvention.¹ The abandonment of this line caused great dissatisfaction among the colonists and the English merchants, who declared the loss of subsidy was more than offset by the profits made in the transport business. This was no doubt the fact, but the line was obliged to put its vessels at the service of the government. Even if this were not the case, the line could not be shut out from following the course offering the largest profits, simply because it held mail contracts.

After the Crimean War, the P. and O. again offered (1855), to carry the Australian mails, this time for an annual subsidy of £84,000. The offer was peremptorily refused. The Australian colonists began to feel their importance and demanded an independent mail service. Accordingly the colonial legislatures voted liberal grants for a "monthly, direct, and independent service" between Suez and Australia. The conditions as prescribed by the home government were very severe. Two tenders were considered. The P. and O. offered to take the contract for £140,000, if the severe progressive penalty clauses were omitted. The European and Australian Steam Navigation Company accepted the whole contract for £185,000 per annum.² The latter offer was

¹ Lindsay, vol. IV, p. 395.

² Parl. papers, 1857-8, vol. 41, no. 19; 1861, vol. 12, no. 463, app. no. 1.

accepted, although there were two other bids of £161,000 and £130,000 respectively, for the identical service by responsible ship owners.¹

So large a subsidy for such a comparatively unimportant service created surprise. The contract was to go into effect in 1857. When the time came the company had no ships ready and was subjected to the penalty of £100 per day until they could furnish a suitable vessel. When they did begin the service their vessels either broke down or proved unseaworthy. In one year this ill-fated company, through losses and injuries to ships and penalties for non-fulfilment of its contract, lost its entire capital of £400,000 besides contracting a debt of £270,000. Added to all this was the loss on docks and plant, estimated at £370,000.² The Royal West Indian Mail then attempted to perform the service under certain conditions, but failed.³

The next year (1858), the government advertised for new tenders. The P. and O. offered to do the service for £180,000; the Royal Mail for £250,000. As the offers were for exactly the same service, the bid of the P. and O. was, of course accepted.⁴ The subsidy of £180,000 included £24,000 for the service between Mauritius and Aden. This line was soon abandoned, and a new contract for the Australian service was drawn up (1861), providing an annual subsidy of £134,672.⁵ When the contract expired in 1866, the P. and O. offered to make twelve trips a year for

¹ Parl. papers, 1856, vol. 51, no. 359.

² *Ibid.*, 1857-8, vol. 41, no. 19, p. 14 and no. 144; also Lindsay, vol. IV, pp. 396-401.

³ *Ibid.*, 1859, vol. 6, p. 14, *et seq.*

⁴ *Ibid.*, 1859, vol. 6.

⁵ *Ibid.*, 1861, vol. 35, no. 285.

£120,000, or twenty-four for £170,000 per annum, at an average speed of ten knots an hour.

In 1867 a new contract for the East India service was made, whereby the P. and O. received a yearly subsidy of at least £400,000 for traversing a distance of over 1,313,000 sea miles, or at the rate of about 6s. 1d. per mile. It was provided that if the sum available for dividends should fall short of £160,000, (six per cent on the capital stock), the government should make good the deficiency, provided that the total sum payable in any one year should not exceed £500,000.¹ During the last fourteen months of this contract the government paid the maximum amount of £500,000 a year,² making the total for the East Indian and Australian services £670,000.

In 1870 a revised contract for the East India service was agreed to, by which the company received £450,000 per annum for traversing a distance of nearly 1,745,000 miles, or at the rate of about 5s. 2d. per mile.³ Four years later the amount was reduced to £430,000 by reason of the completion of the Suez canal. At the same time the service was improved in speed.⁴

Before this contract expired in 1880, complaints as to the slowness and excessive cost of the service began to be heard from the East Indian merchants. On March 1, 1878, a public meeting was held in Bombay to consider the subject of postal communication between England and India. A memorial was presented and unanimously adopted asking for a speedier mail service and asserting the right of the colonists to be heard be-

¹ Parl. papers, 1867-8, vol. 41, no. (3960), p. 167.

² *Ibid.*, 1870, vol. 41, no. 424.

³ *Ibid.*, 1870, vol. 41, no. 424.

⁴ *Ibid.*, 1874, vol. 35, no. 351.

fore contracts should be let. In the discussion it was shown that, while the P. and O. had more than fulfilled its contracts, the speed of its vessels was inferior to that of vessels belonging to independent unsubsidized lines. It was asserted that neither the postal service nor political necessity could justify the excessive expenditure made. It was shown that in the case of war the great bulk of the transportation for the government was done by unsubsidized lines.¹

When the routes were advertised (1879) four bidders competed. The postmaster general thought the offers of Mr. Holt of Liverpool most advantageous, and recommended the acceptance of his offer to give a speed of eleven knots between Brindisi and Alexandria, Suez and Bombay, and ten knots between Bombay and China, for a subsidy of £336,500 a year. The P. and O. Company asked £370,000 for this service with the difference that they offered a speed of ten and a half knots for a direct service from Suez to China. Contrary to the recommendations of the postmaster general, the Lords of the Treasury accepted the offer of the P. and O. Company.² The rate per mile remained practically as before, the saving of £60,000 being effected by the abandonment of the service from Southampton to Alexandria. Later on the subsidy was reduced to £360,000. In 1887 the routes were again advertised. Mr. Holt of the Ocean Steamship Company bid against the subsidized line and again he was unsuccessful. The P. and O. secured the contract for ten years, with a subsidy of £265,000 a year, giving a speed of thirteen

¹ Parl. papers, 1878-9, vol. 42, no. 103, esp. Speech by Mr. Kittridge, pp. 9-13.

² *Ibid.*, 1878-9, vol. 42, no. 103.

and a half knots for the Indian service and eleven knots for the China service.¹

In the meantime, the Australian colonists complained vigorously of the inadequate and costly service furnished them by the contract of 1866. The home government took no action until 1879 when a new contract was made with the P. and O. whereby the Company agreed to perform a fortnightly service during ten years between Point de Galle and Melbourne for £85,000 per annum. Since 1868 the company had been making thirteen trips a year for which it received £130,000.² The service was thus doubled while the cost was reduced by £45,000.³ This economy, due to the activity of the Australian government which negotiated the contract, was made possible by the competition of rival lines, especially the Orient Steamship Company. When the contract expired in 1888, the Australian service was changed from a fortnightly service connecting with the China line to a weekly service direct from Brindisi and Naples to Adelaide, Brisbane, and Melbourne, giving an acceleration of three days in time. The service was divided between the P. and O. and the Orient Steamship companies, each receiving £85,000 per annum for sailing on alternating weeks.⁴ The contracts were renewed until 1898 when the contract for the East India service expired. The P. and O. and the Orient lines again secured the contracts which are made for seven years. The P. and O. undertook the weekly service between Brindisi and Bombay and the fortnightly services via Colombo to and from Shanghai and Australia

¹ Parl. papers, 1887, vol. 49, no. 87.

² *Ibid.*, 1868-9, vol. 34, no. 227.

³ *Ibid.*, 1878-9, vol. 42, no. 2361.

⁴ *Ibid.*, 1890, vol. 41, no. 112.

for a total of £330,000 a year. At the same time the speed on the Bombay line was increased from 12½ knots to 14½ knots, on the China line from 11.2 to 13.3 knots, on the Australian line from 12.13 to 14 knots. The Orient Company took the fortnightly service between Brindisi and Australia via Colombo for the former subsidy (£85,000), but reduced the transit time from 34 days, 18 hours to 31 days, 6 hours.¹ The contract price is now 4s. 6d. per mile on the India-China lines and 5s. 5d. per mile on the Australian lines.

It is a disputed question whether the government could have secured the eastern mail service for a less expenditure. Certain it is that the service rendered by the P. and O. was much less expensive and much more efficient than that rendered by either the East India Company or the government Post Office packets. The attitude of the government at first was hostile rather than friendly, and by throwing the contracts open to public bidding it attempted to let them on a competitive basis. Although the P. and O. had no successful rivals, yet several contracts were taken from them by other bidders. Even the unsuccessful competition of lines inferior in strength and resources prevented the possibility of extravagant payments and the stand-still policy of the Cunard line. If at times the subventions were exorbitant, we must consider the urgent necessity for the government to keep up regular communications with the distant eastern colonies, especially with India; the tremendous difficulties to be overcome; and the onerous terms of the contracts. The government secured the services it needed more cheaply through the P. and O. than in any other way it ever tried.

¹ Parl. papers, 1897, vol. 52, no. 259.

The letting of the mail contracts to private undertakers undoubtedly gave some impetus to shipping, but the benefits were of necessity absorbed for the most part by the one company securing the contracts. This is unavoidable, and, if it be an evil, it was at least in this case a lesser evil than to trust the mails to the irregular service of non-contract vessels. The profits from the mail contracts, of course, increased the power of the company and are partly responsible for the fact that it was for long the only great English steamship line in Eastern waters. But this does not mean that it had a monopoly of transportation. Sailing vessels and tramp steamers kept down freights in the earlier days, and the competition of English and foreign lines in more recent years has compelled the company to be progressive. It has been active in opening up new fields of commerce and extending old ones, but this would have come about eventually without subsidies. The mail contracts for the most part were merely an extension of legitimate business. The Glen Line, City Line and Ocean Steamship Line to China, Calcutta and Bombay, respectively, grew up alongside of the P. and O. and beat the P. and O. boats for a time.¹ Competition and not mail contracts compelled the company to build larger, swifter and better steamers. The subsidies did not call the P. and O. into being. The utmost that can be said is that they have worked no permanent harm, and, perhaps, have helped to develop commerce in the East Indies somewhat earlier than would have been the case without subsidies.

Comparisons.—For the year 1899–1900, the British government paid out in mail subventions £759,433.²

¹ Parl. papers, 1878–9, vol. 42, no. 103.

² A part of the subvention for the Australian service was paid by the colonial government, but the amount is not given.

TABLE I

SERVICE.	FREQUENCY.	CONTRACTORS.	Subsidy in 1000 lbs.	Miles run per year in 1000 miles	Mileage rate.
1. Dover to Calais and back	Daily both ways.	London, Chatham & Dover Ry. Co.	£ 25	---	---
2. Brindisi to Bombay and back <i>via</i> Suez Canal	Weekly both ways.	} P. & O. Co. Orient Co.	330	1220	5s. 5d.
3. Brindisi to Shanghai and back	Fortnightly both ways.				
4. Brindisi to Adelaide and back	Fortnightly both ways.				
5. Naples to Adelaide and back	Fortnightly both ways.				
6. Halifax to Vancouver by rail. Thence to Hongkong by sea, both ways.	Monthly both ways.	Canadian Pacific Co.	60	---	---
7. Southampton to West Indies and back	Fortnightly both ways.	Royal Mail Co.	80	260	6s. od.
8. Aden to Zanzibar and back	Monthly both ways.	British India Co.	9	---	---
9. South and Central Am. and Falkland Isl.	Fortnightly & month'y	Pacific Co.	32	---	---
10. Southampton to S. Africa and back ¹	Weekly both ways.	Union & Castle Mail. Cunard and White	135	650	3s od.
11. Southampton to New York outward ²	Bi-weekly.	Star Line.	113 ²	300	7s. 7d.

¹ Colonial contract.² Payment depends on weight of mails carried.

The colonies of North America, New Zealand, and South Africa paid £188,621 in addition to the amounts expended by the home government. The admiralty subventions to reserve merchant cruisers are not fixed amounts. For that year they amounted to £65,000. The sum total paid out by Great Britain and her colonies to merchant shipping was £1,013,054 (\$4,923,442). Table No. I gives statistics of the more important mail lines for the year 1899-1900.

The comparatively high rate paid for the New York service is due to the high speed required and the importance of the service. In table No. II, (for 1898), it will be seen that, on the basis of mails carried, the New York service is much the cheapest.

TABLE II

Service.	Weight of letters, books, packages, etc. (Million lbs.)	Rate per lb.
New York (outward)-----	2.75 -----	os. 9.8d.
India and China-----	3.4 -----	1s. 5d.
Australia -----	2.9 -----	1s. 2d.
South Africa -----	1.5 -----	1s. 2½d.
West Indies-----	.4 -----	4s. od.
Canada to China-----	no data-----	

A comparison of the subsidized lines with some of the leading unsubsidized lines is of interest. The White Star Line publishes no statements for the public; but it is known that it pays higher dividends than the Cunard line because of its unsurpassed fleet of cargo steamers. The Orient Company paid no dividends in 1898, and it is doubtful if it even met fixed charges. The Leyland Line on the same route as the Cunard, paid a dividend of 11 per cent. The West India and Pacific Steamship Company, over much the same route as the Royal Mail, has been earning 12½ per cent. while the latter has scarcely made a doubtful 5 per cent. Mr. J. W. Root comments; ¹ "So far, then, from subsi-

¹ *Atlan. Mo.*, vol. 85, p. 393.

sidies being an advantage, they appear in some instances, at least, to be positively detrimental to the companies receiving them." Mr. Root has been rather hasty in his conclusions from these very meager statistics of earnings. Small dividends do not necessarily mean a lack of prosperity. On the contrary, it often means the greatest prosperity, the surplus being absorbed in extending and improving the plant. This probably ex-

TABLE III

In 1000 pounds		In 1000 dollars	In 1000 pounds		In 1000 dollars
1840----	£170-----	\$ 829	1872----	£1,056-----	\$5,139
1841----	282-----	1,375	1873----	901-----	4,385
1842----	461-----	2,244	1874----	746-----	3,631
1843----	463-----	2,254	1875----	797-----	3,879
1844----	547-----	2,665	1876----	717-----	3,791
1845----	718-----	3,494	1877----	717-----	3,791
1846----	714-----	3,478	1878----	725-----	5,529
1847----	734-----	3,575	1879----	715-----	3,482
1848----	779-----	3,794	1880----	692-----	3,371
1849----	759-----	3,696	1881----	692-----	3,368
1850----	756-----	3,699	1882----	709-----	3,454
1851----	827-----	4,028	1883----	750-----	3,653
1852----	890-----	4,335	1884----	751-----	3,657
1853----	864-----	4,207	1885----	740-----	3,602
1854----	775-----	3,771	1886----	730-----	3,555
1855----	743-----	3,619	1887----	639-----	3,112
1856----	759-----	3,695	1888----	644-----	3,134
1857----	826-----	4,023	1889----	826-----	4,024
1858----	847-----	4,126	1890----	910-----	4,429
1859----	844-----	4,111	1891----	930-----	4,527
1860----	932-----	4,537	1892----	950-----	4,626
1861----	1,002-----	4,879	1893----	936-----	4,555
1862----	837-----	4,076	1894----	975-----	4,745
1863----	900-----	4,382	1895----	961-----	4,677
1864----	796-----	3,875	1896----	977-----	4,759
1865----	817-----	3,978	1897----	1,019-----	4,959
1866----	783-----	3,814	1898----	1,036-----	5,123
1867----	777-----	3,781	1899----	1,013-----	4,923
1868----	1,056-----	5,142	1900----	774-----	3,764
1869----	1,044-----	5,081			
1870----	1,047-----	5,095			
1871----	1,041-----	5,069			

Total, £48,128; — \$283,906.

plains, in part at least, the comparatively low rate of dividends paid by the Cunard Company. In 1900 the Cunard Company paid 12 per cent, and generally it pays as well as other large passenger lines. The Royal Mail pays low dividends because of its unprogressive policy, which may or may not be due to the subventions. The chances are, however, that some mail lines would go into more competent hands, if the mail contracts were let on a strictly business basis.

Table No. III gives the yearly amounts paid out by Great Britain in mail subventions from 1840 to 1900.

FRANCE

FISHING BOUNTIES

France is and ever has been the bounty-giving nation *par excellence*. As early as 1670 the French government gave a bounty varying from four to six livres per ton upon French built vessels. Various bounties for the encouragement of the fisheries, the import of ship-building material, and the export of French commodities in French bottoms were enacted during the 17th and 18th centuries. These laws were of little effect. The encouragement of sea fisheries was begun in a systematic manner by France in the early part of the 17th century, and continues up to the present time. The law of July 31, 1890 provides for a bounty (*prime d'armement*) of fifteen, thirty, and fifty francs per man to fishing vessels, according to the kind of fisheries and the place where carried on. Besides these direct bounties, the fishing industry enjoys indirect bounties in the form of *primes d'importation* on fish. The official

statistics show a steady increase in the amount of the bounties since the passage of this law. In 1891 the *primes d'armement* were 592,400 francs and the bounties on import and export amounted to 2,249,275 francs. In 1900 the sums were 635,365 francs and 4,913,803 francs respectively. These figures indicate a very considerable growth in the industry, for which the law is no doubt in some measure responsible. It would require a book to give the history and results of the fishing bounties since 1850, but their importance in the development of the merchant marine is too slight to merit further discussion in this brief study.

THE MERCHANT MARINE

The Law of 1881. The premiums to the merchant marine proper date from the law of January 29, 1881.¹ Previous to that time the French government had attempted to protect its merchant marine by imposing discriminating duties on goods carried by foreign ships. These laws created so much friction with foreign governments that they were repealed in 1873, less than a year after their enactment. The law of 1881 granted a bounty on construction of 10 francs (\$1.93) per gross ton on wooden ships of less than 200 tons; on wooden ships of more than 200 tons, 20 fr. (\$3.86) per gross ton; on composite ships (ships with iron or steel beams and wooden sides), 40 fr. (\$7.72) per gross ton; on iron or steel ships, 60 fr. (\$11.58) per gross ton; on engines and boilers, 12 fr. (\$2.32) per 100 kilograms (220.46 lbs.) For renewing boilers the bounty was 8 fr. (\$1.544) per 100 kilograms of new material used, and any modifica-

¹ For the text of the law, see *Documents parlementaire*, 1881, and the *Bulletin de statistique et de législation comparée*, vol. 9 (1881), pp. 81-83.

tion of a ship increasing its tonnage entitled the owner to a bounty at the above rates on the net increase of tonnage.

The navigation bounties were as follows. To owners of ships constructed in France was given a bounty of 1.5 fr. (29 cents) per net ton for every 1000 sea-miles sailed for the first year of a vessel's life. The rate of the navigation bounty diminished 7.5 centimes (1.4) for wooden vessels and 5 centimes (1 cent) for iron or steel vessels each year until the entire bounty was suppressed. Foreign built vessels, owned by Frenchmen and admitted to French registry were entitled to one-half the navigation bounty, while French built steamers constructed on plans approved by the navy department were entitled to fifteen per cent premium above the ordinary rates.¹ The law was enacted for a period of ten years.

The construction bounties granted by this law were given "as compensation for the increased cost which the customs tariff imposes on ship-builders" in consequence of the repeal of the law granting free import of materials of construction. The navigation bounties were granted "by way of compensation for the obligations imposed on the merchant marine for recruiting and assisting the navy." These alleged reasons for the bounties were mere word formulas intended to give them the appearance of payments for services or drawbacks on duties. In fact they were gifts from the public treasury to private individuals for which the government received no direct return.

¹The law of 1881 was first proposed in the Chamber of Deputies November 27, 1877. During 1879 and 1880 the bill was much discussed in the Chamber and was adopted July 10, 1880. It was transmitted to the Senate July 15, where it was deliberated and passed with slight amendments on January 27, 1881. The amended bill was finally adopted by the Chamber, Jan. 29, 1881.

Table No. IV gives the tonnage built in French yards and the amount purchased abroad for nine years before and ten years after the passage of the act of 1881.

TABLE IV

(AMOUNTS IN 1000 GROSS TONS)

Year	Built at home	Purchased abroad	Year	Built at home	Purchased abroad
1872-----	50	34	1882-----	56	78
1873-----	39	17	1883-----	35	49
1874-----	34	17	1884-----	57	20
1875-----	37	20	1885-----	15	9
1876-----	32	15	1886-----	27	14
1877-----	26	12	1887-----	15	14
1878-----	21	19	1888-----	31	26
1879-----	24	16	1889-----	32	24
1880-----	12	34	1890-----	24	50
1881-----	20	34			

A summary of the navigation bounties from 1882 to 1890 inclusive, compiled from information given in the United States consular reports, is given below, in Table No. V.

TABLE V

FRENCH BUILT

Year	Vessels	Miles (In millions)	Bounty (In 1,000,000 francs)
1882-----	543	10.3	5.6
1883-----	493	9.5	6.7
1884-----	492	8.9	7.0
1885-----	442	7.8	6.2
1886-----	400	6.7	6.2
1887-----	393	7.0	6.8
1888-----	360	6.4	6.6
1889-----	326	6.0	6.7
1890-----	316	5.5	7.1

FOREIGN BUILT

Year	Vessels	Miles (In millions)	Bounty (In 1,000,000 francs)	Total bounties (In 1,000,000 francs)
1882-----	28	.6	.8	6.4
1883-----	48	1.3	1.7	8.4
1884-----	62	1.4	1.5	8.5
1885-----	68	1.5	1.3	7.5
1886-----	64	1.4	1.3	7.5
1887-----	65	1.4	1.3	8.2
1888-----	81	1.5	1.5	8.1
1889-----	89	1.9	1.6	8.4
1890-----	115	1.3	1.9	8.0

We learn from the official statistics of French built ships earning navigation premiums that, in the period from 1882 to 1890, iron or steel tonnage increased from 159,714 tons to 190,821 tons, gross tonnage; the distance traversed increased from 3,278,924 to 3,542,767 nautical miles; and the premiums increased from 3,831,307 fr. to 6,322,853 fr.; wooden or composite tonnage declined from 150,233 tons to 57,068 tons gross; the miles sailed decreased from 7,039,942 to 2,524,549 nautical miles; and the premium declined from 1,784,905 fr. to 468,575 fr. During the same period foreign built iron or steel tonnage earning subsidy increased from 43,787 tons to 91,170 tons gross; distance traversed increased from 599,022 to 1,564,368 nautical miles; and the navigation premiums increased from 836,584 fr. to 1,666,081 fr.; wooden or composite tonnage earning subsidy increased from 1220 to 9799 tons gross,—an insignificant amount, but very suggestive in face of the very decided decline in French tonnage of this description. It is noteworthy that with the very considerable construction bounties and the large navigation bounties, the navigation of domestic built wooden vessels continued to decrease so rapidly. It is even more remarkable that, with double the navigation premium and a large construction bounty besides, the domestic-built iron and steel tonnage (mostly steamers) should increase much less rapidly than foreign built tonnage of like kind.

M. Siegfried, minister of marine, in his report of 1893, says: "So far as French ship-building is concerned, the results of the act of 1881 have not been satisfactory. . . . It is true that we have constructed in France 307,626 tons of iron and steel steamers, but from this should be deducted 124,000 tons for steamships

belonging to subsidized government mail lines, the construction of which in France is obligatory. . . . On the average we estimate that an ordinary steamship in England costs 300 fr. (\$57.90) per gross ton, while the same vessels costs 420 fr. (\$81.06) in France. Besides this difference, English ship-builders have numerous advantages in the magnitude of their plants, the large number of vessels they build, often from the same model, and the shorter time for construction than is required in France. These reasons show why the act of 1881 has given insufficient results, but I hasten to say that without this act our ship-yards would have completely disappeared. Our average annual expenditure of 2,679,766 francs for the last ten years has not been wasted ; it has merely been insufficient. Until French ship-yards shall have grown and secured large and regular contracts, it is impossible for them to build on equal terms with foreign yards. The latter and especially British yards obtain their raw materials on much more advantageous terms ; indeed, at the moment steel and iron plates cost in England 15 francs per 100 kilograms, against 23 and 25 francs in France, while the price of their coal is much below ours.

Undoubtedly labor is much cheaper in France, where fitters (*ajusteurs*) and riveters (*forgerons*) are paid from 5 to 6 francs (\$0.96½ to \$1.158) a day, while in England they earn an average of 12 to 15 francs (\$2.316 to \$2.895), but the British workman, usually paid by the piece, turns out a large amount of work, and thus by efficiency compensates in great measure for the difference in wages. Finally general expenses which are an important element in cost of naval construction, are much less in England. . . . We estimate that general expenses are one-half in England

what they are in France. Competition on equal terms is thus impossible. Experience shows that the construction bounty of 60 fr. (\$11.58) per ton under the law of 1881, even with the aid of a large navigation bounty for vessels built in France, has been insufficient."

With regard to the navigation premiums, Mr. Siegfried cheerfully remarks, "So far as navigation is concerned it can be affirmed that the results of the bounty act of 1881, without being very great, have been satisfactory." He noted that in 1881, besides mail-contract steamships, France had 47 steamers of 72,985 gross tons, and in 1891 she had 168 steamers of 380,433 gross tons. But of this amount 332,627 tons of large iron and steel steamers were purchased abroad.

Table No. VI contains the statistics as complete as could be obtained of the amounts paid out under the act of 1881, in construction and navigation bounties. The figures were taken from the *Bulletin de statistique et de legislation comparée* and from various Reports of the U. S. commissioner of navigation. The author expended much time and labor in a fruitless attempt to reconcile the figures given by the various official publications of France, but was compelled to give it up as hopeless. The amounts given are in any case nearly correct and give a good idea of the amount expended by France under this law.

Although the law of 1881 undoubtedly did increase construction in French yards and navigation under the French flag, the results, on the whole, were decidedly unsatisfactory. The expenditure of 89¼ million francs in navigation bounties and 31½ million francs in construction bounties during the twelve years' life of the act increased the merchant tonnage, no doubt; but it so pauperized the shipping industry that it became the

TABLE VI

	Tonnage constructed (in 1000 tons)		Iron Tons	Total construction premiums includ- ing sums paid for engines and boilers
	Under 200 tons Tons	Wood Over 200 tons Tons		
1881-----	7.8	.8	9.7	.8
1882-----	8.6	1.6	58.1	4.4
1883-----	7.9	.8	38.4	3.1
1884-----	9.5	2.3	54.6	4.4
1885-----	6.5	2.7	11.5	1.1
1886-----	7.4	1.1	31.7	3.0
1887-----	5.2	.7	15.6	1.4
1888-----	7.9	.4	24.4	2.2
1889-----	6.4	.7	35.5	3.0
(²) 1890-----	---	---	---	2.7
1891-----	---	---	---	2.8
1892-----	---	---	---	2.0
Total,				31.4
	Navigation premiums (in 1,000,000 francs)			Total construction and navigation premiums
	Amounts paid to French built ships	Amounts paid to foreign built ships	Total navigation premiums (¹)	
1881-----	2.8	.1	3.0	3.8
1882-----	5.6	.8	6.4	10.9
1883-----	6.7	1.	8.4	11.6
1884-----	7.0	1.	8.5	13.0
1885-----	6.2	1.	7.5	8.6
1886-----	6.2	1.	7.5	10.5
1887-----	6.8	1.	8.2	9.6
1888-----	6.6	1.	8.1	10.4
1889-----	6.7	1.	8.4	11.5
1890-----	---	---	8.0	10.8
1891-----	---	---	7.3	10.1
1892-----	---	---	7.2	9.2
Total,			89.2	140.7

Compiled from the *Bulletin de statistique et de législation comparée*, vol. XXIX (1891), p. 388 ff.

¹The figures in this column are not the sum of the figures in the two preceding columns. How the discrepancy arises is not explained by the French statistics.

²The figures for the last three years were taken from the Reports of the U. S. commissioner of navigation and may not exactly agree with some French official figures. The difference is slight, however.

more helpless and needy, the more it was helped and the larger it grew. Professor F. H. Giddings says:¹ "All modern experience of poor relief is an overwhelming demonstration that any community can have all the pauperism and criminality that it cares to pay for". The truth of this terse statement is not at all weakened if the pauper chances to build or own ships. It has been said that it was necessary for France to have a large merchant marine for nationalistic reasons, and that the subsidies accomplished this end. Nevertheless it must be admitted that the industry was pauperized. The utility, as a pillar of the state, of an industry which depends on subsidies for its very life, may well be questioned.

"The Society for the defense of commerce" declared that the law of 1881 would have resulted most happily had it not been limited to ten years.² Doubting its renewal, ship-owners ceased some years before its expiration to increase their fleets. The owners of old worn out wooden sailing ships were especially clamorous for a revision of the law whereby they could be benefited. They argued that sailing ships, being much slower than steamers, should therefore receive correspondingly higher mileage subsidies in order to compete on equal terms with steamers. It requires a mind well schooled in the subtleties of protectionist dialectics to appreciate the force of this profound argument for maintaining obsolete and inefficient methods of production at public expense.

The Law of 1893. To meet the demands of certain ship-owners, a new law was enacted on January 30,

¹ Principles of sociology (1902), p. 130.

² The law was extended in 1891 for two years, making twelve years in all.

1893.¹ The new law cut off the premiums to foreign built ships, and provided the following premiums for ships of French registry.

Title II Maritime construction

Art. 2. In compensation for the tariff charges imposed upon the builders of sea-going ships, the following allowances are made to them per ton, gross :

For steam or sailing ships of iron or steel, 65 francs (\$12.54).

For wooden ships of 150 tons or more, 40 francs (\$7.72).

For wooden ships of less than 150 tons, 30 francs (\$5.79).

Art. 3. In compensation for the same charges, the following allowances are made to the builders of machines.

For engines, boilers, auxilliary machinery, etc., 15 francs (\$2.995) per 100 kilograms (220.46 lbs.). This bounty shall also be extended to new parts of engines, etc., supplied during the life of the ship. When boilers are changed the bounty shall be 15 francs per 100 kilograms if the new boilers are of French construction.

Title III Maritime navigation

Art. 5. By way of compensation for the burden imposed upon the merchant marine as an instrument for recruiting the military marine, a premium is accorded upon navigation of all ships of French construction of more than 80 tons for sailing vessels, and 100 tons gross for steamers. The premium will be payable during ten

¹ For the text of the law, see the *Documents parlementaires* for 1893 and *Bulletin de statistique et de législation comparée*, vol. 33 (1893), pp. 111-118.

years to all French built ships engaged in making long voyages (*navigation au long cours*) and in international coasting (*cabotage international*).¹ Ships engaged in French coasting trade, fishing vessels, lines subsidized by the state, and pleasure boats are expressly excluded from receiving the premium.

Art. 6. There shall be no bounty to foreign built vessels.

The bounty to French built vessels shall be based on gross tonnage per 1000 miles sailed at the following rates :

For steam vessels, 1.10 fr. (21.23 cents) with an annual reduction of 6 centimes (1.158 cents) in the case of wooden ships, and 4 centimes (0.772 cents) in the case of iron and steel vessels.

For sailing vessels, 1.70 fr. (32.81 cents) with an annual reduction of 8 centimes (1.54 cents) for wooden and 6 centimes (1.158 cents) for iron and steel vessels. Vessels engaged in *cabotage international* shall receive two-thirds of the above rates.

Art. 7. Steam vessels, built according to plans approved by the naval department shall receive twenty-five per cent additional bounty.

Merchant vessels receiving subsidy may be impressed in case of war.

¹ *Navigation au long cours*, referred to in the various subsidy acts of France, includes voyages beyond the following limits ; 30° north latitude, 72° north latitude, 15° west of Paris meridian, and 44° east of Paris meridian. That is, beyond ports of the Mediterranean, North Africa, and Europe below the Arctic Circle. *Cabotage international* includes voyages within the above limits, between French ports, including those of Algeria, and foreign ports ; also between foreign ports. *Cabotage français* includes the ports of Algeria, and recently those of Madagascar.

The master of any subsidized vessel must carry any dispatches or mails for the government free of charge.¹

Table No. VII gives the statistics as completely as could be obtained of the amounts paid out in construction and navigation bounties under the Act of 1893. The figures were compiled from the *Bulletin de Statistique et de législation comparée*, vol. L (1901), p. 513 ff.

The first effect of the law of 1893 was greatly to increase the already heavy burden of subsidies pressing down upon the French people. It soon became evident that in spite of the increased expenditure, or because of it, the marine was not prospering. In the United States special consular reports, vol. 18 (1900), p. 36, Mr. Robert Skinner, American consul at Marseilles, says of the effects of this law: "Its effect was to divide the interests of ship-owners and ship-builders. The former, at first disposed to give orders to domestic builders, found the latter constantly increasing their prices until the point was reached where the builders were accused of calculating the amount of premium which proposed constructions would command and adding that amount to their own cost price, thus absorbing the premium for navigation and the one for construction. At this time France has but three considerable shipbuilding companies. . . . It is freely said that the three companies named are virtually agreed as to prices, and have

¹The law of 1893 was introduced into the Chamber of Deputies January 11, 1893. (See Doc. parl. No. 1868, Journal Officiel, p. 3078). The report of M. Siegfried, May 28, 1892, (Doc. parl. No. 2118, J. O., p. 1090), Supplementary report, July 7, 1892, (Doc. parl. No. 2298, J. O., p. 1564). Discussion, January 14 and 16, 1893, (Débats parlementaires, J. O., p. 23 and 49). Adoption, January 18, 1893 (Déb. parl. J. O., p. 87). Transmission to the senate, January 19, 1893 (Doc. parl. No. 13, J. O., p. 77). Report of M. Moïnet, January 21, 1893 (Doc. parl. No. 19, J. O., p. —). Discussion January 26, 1893 (Déb. parl., J. O., p. 95). Adoption January 27, 1893 (Déb. parl., J. O., p. 114). Promulgation, January 31, 1893 (J. O., p. 545).

TABLE VII

	Premiums on construction (in 1000 francs)		Iron vessels (65 fr. per ton)	Engines boilers and renewals of the same (15 fr per 100 kgs)	Total premium on con- struction
	Wooden vessels less than 150 tons (30 fr. per ton)	more than 150 tons (40 fr. per ton)			
1893-----	283	128	1164	536	2112
1894-----	263	123	887	814	2089
1895-----	316	117	1325	1041	2800
1896-----	336	113	2631	1024	4106
1897-----	379	188	3711	866	5145
1898-----	279	169	2928	1236	4613
1899-----	230	186	5403	1243	7064
1900-----	249	187	7584	1264	9296
Total....	2339	1214	25,647	8027	37,229

	Premiums on navigation (in 1000 francs)		French built ¹	Foreign built ²	French built ¹	Foreign built ²
	Wooden vessels Sail	Iron vessels Steam				
1893-----	196	22	4195	1002		
1894-----	344	23	5244	1315		
1895-----	298	24	5910	1236		
1896-----	231	20	6774	923		
1897-----	255	6	7091	866		
1898-----	234	2	6600	805		
1899-----	255	1	7198	735		
1900-----	274	2	6952	631		
Total.....	2090	113	49966	7316		

	Iron vessels Sail		Total navigation premium ³	Total construction and navigation premium
	French built ¹	Foreign built ²		
1893-----	327	327	6071	8184
1894-----	533	384	7853	9943
1895-----	695	415	8580	11381
1896-----	1223	401	9574	13681
1897-----	2799	404	11332	16478
1898-----	3811	345	11800	16414
1899-----	4722	332	13245	20310
1900-----	7108	319	15287	24584
Total....	21,131	2929	83,548	120,777

¹ Includes vessels built abroad but registered before Jan. 1, 1881.

² Foreign built vessels which were admitted to French registry before the law of Jan. 30, 1893 became effective.

³ These figures do not include the amounts paid by the state to the "Caisse des invalides de la marine," which average about one-half million fr. yearly.

now put them at prohibitive figures, meantime occupying themselves mainly with the building of war vessels."

Ship-owners complain also of the slowness of French builders, a ship requiring 9 months for completion in England requires 20 months in France. The Society for the defense of commerce urged the passage of a law giving premiums to foreign built ships. "To buy foreign built ships will be to pay to foreigners a tribute much less than the amount we now pay in freight. The freight charges, once paid, are lost forever, while the foreign-built ship diminishes by nothing the national wealth and gives employment to a numerous population."

The worst features of the law of 1893 were the construction bounties given to wooden ships and the navigation bounties given to sailing ships. The statistics of construction in France during three years are as follows: for 1899, total construction 155,674 tons, of which 65,880 tons were war vessels and 89,794 tons merchant vessels; for 1900, total 213,838 tons, war vessels 48,490 tons, merchant ships 165,348 tons; for 1901, total, 232,404 tons, war vessels 54,861 tons, merchant ships 177,543 tons.¹ This seems like very satisfactory progress until we examine the returns a little more in detail. Of the merchant tonnage built in 1901, twenty-three vessels of 6114 tons were wooden sailing ships, 50 of 118,514 tons were iron or steel sailing ships, and only 19 vessels of 52,915 tons were steel steamers. That is, 70 per cent of the total merchant output of French yards was sailing tonnage. In the same year, Germany built 83 steel steamers of 208,734 tons, and only 17 sailing vessels of 8109 tons, while Great Britain built 591 steamers of 1,501,078 tons and only 48 sailing ships of 23,661 tons. The showing for

¹ U. S. consular reports, vol. 69 (1902), p. 102.

1900 is even more telling against France. In that year only 19,894 tons of steel steamers were built in French yards, as against 96,864 tons of sail tonnage. That is, 83 per cent of the merchant tonnage built consisted of sailing ships. In Germany the proportion was 195,518 tons steam, 8813 tons sail (equal to 4.3 per cent of all construction) : in England the amounts were 1,432,600 tons steam, and 9871 tons sail (equal to 0.7 per cent of all construction). The enormous disproportion of sail tonnage constructed in France can be ascribed to no cause other than the subsidy act of 1893. If there be justifiable and praiseworthy grounds for subsidy, they are not apparent in this particular instance. As the law of 1881 pauperized French shipping interests, so the law of 1893 utterly demoralized them by grading the premiums in direct proportion to inefficiency. It is noteworthy that in 1901, French ship-owners purchased from English builders thirteen steamers of 20,609 tons, *i. e.*, more than one-fourth the steam tonnage added to the French marine. This condition caused the French ship-builders intense pain. They asserted that the premiums were not large enough to enable them to compete successfully with the English builders, and asked for larger subsidies and the denial of registry to vessels purchased abroad. On the other hand, the ship-owners asked that the bounties be given to foreign built vessels so that they might be delivered out of the hand of the French ship-building monopoly. They complained loudly because the government yielded its claim to exclusive trade privileges with Madagascar as French coasting trade. The owners were also divided among themselves. Owners of steamships complained because of the relatively higher construction bounties and the absolutely higher navigation bounties

accorded to wooden sailing ships. Owners of sailing vessels, though collecting bounties amounting sometimes to twenty-five per cent of their investment, lamented the continued decline of wooden sailing tonnage. Merchants complained because trade declined, and Frenchmen in general complained because the marine continued to decline relatively to the marines of other countries. On only one point were these various antagonistic factions united. They all stood staunchly for subsidy. They differed only as to the division of the spoils.

Almost alone, the French economists have always opposed and still oppose the subsidies in principle and in practice. They go too far perhaps in ascribing the decadence of the merchant marine entirely to the premiums. According to a report of M. Thierry, during the years 1886 to 1896 the English marine increased its steam tonnage by 53 per cent; Germany, by 107 per cent.; Spain, 30 per cent.; Holland, 37 per cent.; Italy, 68 per cent.; Russia, 65 per cent.; Norway, 191 per cent.; Sweden, 64 per cent.; Austria, 60 per cent.; Denmark, 76 per cent.; Portugal, 110 per cent.; Greece, 158 per cent.; Roumania, 7 per cent.; Japan, 231 per cent.; while the French steam tonnage has diminished one per cent. or 5347 tons.¹ In the same volume from which these figures are taken, appear some interesting statistics. A French sailing ship carried a cargo of coal from England to America, brought back a cargo of wheat to England and returned to France in ballast to claim the premium, which amounted to 80,000 fr. (\$15,440). The writer reckons the dividend on a capital of 450,000 fr. (\$86,850) at 22 per cent. Another sailing vessel received 75,000 fr. for a voyage of ten

¹ *Journal des Économistes*, vol. 48 (1901), p. 312).

months, which, according to the writer, on a capital of 500,000 fr. is equivalent to 31 per cent. per annum. (It is not clear how these per cents. are reckoned. Perhaps the writer takes into account the exemptions from tonnage and light dues. The bounties alone are 17.7 per cent. and 18 per cent. per annum of the capitals respectively.)

M. Yves Guyot gives in the same place a *resumé* of the report of one of the leading sail-navigation companies of France, which is put in tabular form in Table No. VIII.

TABLE VIII
(In 1000 francs)

Name of vessels	Capital	Yearly per ct	Premiums	Total income of the company. <i>Benefices nets (i. e. the total income earned from freights)</i>
Charles-Gounod	320	25	119	121
General Neumayer ..	240	21	157	133
Reine Blanche	220	33	133	131
General-Charette	280	25	105	87
Jules Verne	387	22	60	91
Louis Pasteur	418	15	101	79
L'Admiral Troude...	480	24	73	104
Total	2346	23 ¹	751	749

¹ Average.

As will be seen, the premiums make up more than one-half the total income of the company, so M. Guyot is entirely right when he says that the French taxpayers pay more than one-half of these extraordinarily large dividends. With such profits for lure it is small wonder that sail tonnage grew so rapidly in comparison to steam tonnage. But for the uninsurable uncertainty of tenure peculiarly characteristic of government bounties, the increase in sail tonnage would undoubtedly have been much greater.

Because the navigation bounties were paid per mile sailed, without reference to cargo, ship-masters fre-

quently sailed around Cape Horn to the western coast of the United States in ballast, returning with cargoes of wheat and collecting enormous bounties for the whole voyage, amounting in some cases to twenty-five per cent. on the capital employed.

In the *Revue Politique et Parlementaire*, vol. 31, p. 409 it is asserted that the statistics for 1900 show a considerable increase in the trade of France, but this increase was carried entirely in foreign ships. "French navigation is, on the contrary, declining, not only relatively, but absolutely." Then follows a statement showing that *cabotage international*, which the bounty law was intended to foster, declined 2 per cent. in the weight of merchandise, and 4 per cent. in tonnage employed since 1898. The statistics of other foreign commerce and commerce with the French colonies show a considerable increase, while the French tonnage entered and cleared declined 2 per cent. The weight of imports carried in French ships increased 8 per cent., but exports declined 1 per cent. The value of merchandise carried in French ships decreased 5 per cent. for imports and 4 per cent. for exports.

The general dissatisfaction with the law of 1893, led to its revision April 10, 1902.¹

The Law of 1902. The first article of the subsidy law of 1902 declares positively that all bounties to foreign-built ships are, and remain abolished. Then, for further emphasis is added "No compensation or protection is (shall be) granted to vessels of foreign construction."

Art. II. As compensation for the charges imposed

¹For the text of the law of 1902, see *Documents parlementaires* for 1902, and the *Bulletin statistique et législation comparée*, vol. 51 (1902), pp. 401-410.

upon merchant vessels by making them practically schools for seamen, who, at any and all times up to the age of 45 years can be drafted into the national navy, a shipping bounty (*compensation d'armement*) with the exceptions enumerated in the following articles, will be paid to all iron or steel foreign-built sea-going steamers of over 100 tons gross register and less than 15 years old engaged in deep sea navigation, which sail under the French flag and belong to French citizens or to joint-stock or other companies fulfilling the conditions of the law.¹ The shipping bounty is reckoned per day while the steamer is in *commission*, and per gross ton as follows: up to 2000 tons gross 5 centimes (0.965 cents); 2000 to 3000 tons, 4 centimes (0.772 cents); 3000 to 4000 tons, 3 centimes (0.579 cents); above 4000 tons, 2 centimes (0.386 cents). The number of days for which bounty will be paid in any one year is limited to three hundred. The shipping bounty will be paid to all French registered vessels until they are 15 years old.

Art. III. In order to develop the maritime industries of France, as a general compensation for the charges imposed upon the merchant navy, and for the excessive cost of vessels built in France, a navigation bounty (*prime de navigation*) with the exceptions named in Art. V. will be paid to all French-built sea-going vessels, sailing under the French flag, over 100 gross tons and less than 15 years old. The bounty is fixed per gross ton for every 1000 sea miles sailed as follows:

(a) For smaller steamers, 1.70 fr. (32.81 cents) for the first year with an annual decrease, beginning with the date of the vessel's registration, of 4 centimes (0.772

¹ The irreconcilable contradiction between Arts. I and II is a reflection of the conflict between the ship-owners, who wanted bounties on foreign-built tonnage, and the ship builders who wanted no such bounties.

cents) during the first period of five years, of 8 centimes (1.544 cents) during the second five year period; and of 16 centimes (3.088 cents) during the third and last five year period. For larger steamers the bounty will be decreased one centime (0.193 cents) per 100 tons or fraction thereof above 3000 tons, provided that the bounty for the first year does not fall below 1.50 fr. (28.95 cents) for vessels not above 7000 tons, nor below 75 centimes (14.475 cents) for vessels above 7000 tons.

(b) For sailing vessels the bounty is 1.70 fr. (32.81 cents) for the first year with an annual decrease of 2 centimes (0.386 cent) during the first five year period; 4 centimes (0.772 cent) during the second; and 8 centimes (1.544 cents) during the third and last period. For sailing vessels above 800 tons gross, the bounty will be decreased 10 centimes (1.93 cents) per 100 tons or fraction thereof above 800 tons, provided that the bounty for the first year does not fall below 50 centimes (9.65 cents) per ton.

Art. IV. Five per cent of the navigation and shipping bounties awarded by this law shall be retained for the benefit of all sailors composing the crews of vessels receiving the bounties, to be divided *pro rata* according to the wages of each.

Art. V. Vessels engaged in *cabotage international* shall receive two-thirds of the navigation bounty or the shipping bounty, provided they carry at least one-third of a full cargo.

Art. VI. French-built vessels *for each voyage* shall have the right to choose between the shipping bounty and the navigation bounty. To obtain the shipping bounty for the maximum of three hundred days, steamers must make during the year a minimum of 35,000 miles if engaged in over-sea trade, or 25,000 miles if

engaged in *cabotage international*. All vessels obtaining French registry after they are seven years old, all vessels receiving other subsidy, all steamers below ten knots speed and several other unimportant classes of vessels are excluded from these subsidies.

Art. VII. The tonnage admitted to the benefits of this law, in excess of the tonnage of vessels registered before the promulgation of the law, is fixed at a maximum of 500,000 tons gross of steamers and 100,000 tons gross of sailing vessels. Of steamers two-fifths only of the maximum 500,000 tons can be foreign-built. Vessels registered after the maximum is reached will be ranked in the order of registry and will receive bounty in turn as other vessels cease to obtain the benefits of the law.

Construction bounties are left as laid down in the law of 1893.

Art. XIII. Sailing vessels for which the owners demand, in execution of article IX the benefits of the law of January 30, 1893, must have carried for at least two-fifths of their voyage, going and returning, merchandise representing in freight tons at least two-thirds of their net tonnage.

Art. XVII. Article II of the law of September 21, 1793, is modified in so far as it relates to the composition of the crews of French vessels as follows: Vessels engaged in *cabotage international* in waters beyond the Suez Canal are required to have only the officers and one, two, or three sailors (according to the number in the crew) of French nationality.¹

¹ The law of 1902 was introduced into the Chamber of Deputies by the minister of commerce November 14, 1899. (Doc. parl., No. 1173). Report of M. Thierry, Nov. 6, 1900, (Doc. parl., No. 1893). Discussion Oct. 28 and 29; Nov. 5, 7, 11, 12, 14, 18, 19, 22, 25, 26 and 28; Dec. 2, 3, 5, 9, 1901 (Deb. parl., J. O., pp. 1980, 2000, 2036, 2061, 2108,

The object of this last provision is to enable French merchantmen to compete on equal terms with English and German ships in the Eastern trade by manning their ships with Lascars and other cheap laborers as other nations do. Aside it may be remarked that the French ships utilized this cheap labor before in violation of the law.

Article II is considered by some to be of great importance, because it provides for bounties to foreign-built steamers, which were suppressed by the law of 1893. When the bounties under this article are compared with those under Article III, it may be doubted whether the ship-owners gained much when they tacked this provision to the bill. A foreign-built steamer of 5000 tons will be entitled only to the shipping bounty (*compensation d'armement*) as follows, per day ;

2000 tons at 5 centimes	(0.965 cent)	= 100 francs	= \$19 30
1000 " " 4 "	(0.772 ")	= 40 "	= 7 72
1000 " " 3 "	(0.579 ")	= 30 "	= 5 79
1000 " " 2 "	(0.386 ")	= 20 "	= 3 86
Total per day		190 francs	= \$36 67

For the maximum of 300 days per year the amount is 190 fr. \times 300 = 57,000 fr. (\$11,001.00 which for 15 years, the maximum period of subsidy gives a total of 755,000 fr. or \$165,015.

A French-built steamer of 5000 tons gross will be

2127, 2149, 2206, 2239, 2269, 2328, 2367, 2407, 2467, 2501, 2531, 2585). Adoption, Dec. 10, 1901, (Deb. parl., J. O., p. 2625). Transmission to the senate, Dec. 12, 1901, (Doc. parl., No. 446). Rept. of M. Raynal, Feb. 20, 1902, (Doc. parl., No. 41). Discussion, Feb. 21, 24, 25, 27, 28 ; March 3, 4, 6, 7, 1902, (Deb. parl., J. O., pp. 263, 280, 298, 309, 322, 358, 366, 381, 401). Supplementary rept., Mar. 11, 1902, (Doc. parl., No. 118). Adoption Mar. 13, 1902, (Deb. parl., J. O., p. 431). Return to the chamber of deputies, Mar. 17, 1902, (Doc. parl., No. 3095). Rept. of M. Thierry, Mar. 18, 1902, (Doc. parl., No. 3112). Adoption Mar. 21, 1902, (Deb. parl., J. O., p. 1141). Promulgation, Apr. 10, 1902, J. O., p. 2626.

entitled to a bounty for the first year of 1.50 fr. (28.95 cents) per gross ton per 1000 miles sailed—*i. e.*, 1.70 fr. (32.8 cents), the bounty granted to vessels up to 3000 tons, decreased by one centime per 100 tons for the excess above 3000 tons, in this case 2000 tons. The annual decrease will be 4 centimes for the first five year period, 8 centimes for the second, and 16 centimes for the third. The official distance between Havre and New York is 3171 miles so that, if the vessel made ten voyages per year it would run a distance of 63,420 miles,—a very moderate estimate. Table No. IX gives the amount of subsidy which a steamer of 5000 tons would earn yearly for the fifteen years on the basis of ten voyages per year.

TABLE IX

Subsidy of a 5000 ton French-built steamer under the law of 1902.

Year	Rate per ton per 1000 miles sailed for a steamer of 5000 tons.	Total yearly subsidy for a steamer of 5000 tons making 63,420 miles each year.		
	Francs	(In 1000 francs)	(In 1000 dollars)	
1	1.50	475	91	1st 5 year period 4 centimes de- crease per ton per 1000 miles.
2	1.46	462	89	
3	1.42	450	86	
4	1.38	437	84	
5	1.34	424	82	
6	1.26	399	77	2nd 5 year period 8 centimes de- crease per ton per 1000 miles.
7	1.18	374	72	
8	1.10	348	67	
9	1.02	323	62	
10	0.94	298	57	
11	0.78	247	47	3d 5 year period 16 centimes de- crease per ton per 1000 miles.
12	0.62	196	37	
13	0.46	145	28	
14	0.30	95	18	
15	0.14	44	8	
	14.90	4724	911	

The total bounty for the entire period is nearly six times greater than the maximum amount of subsidy obtainable by a foreign-built vessel of the same size for the

fifteen years,—an absolute excess of 3,969,790 fr. Under the law of 1893, a French-built steamer of 5000 tons making 63,420 miles yearly would have received during fifteen years (supposing the law to have been extended five years), 3,900,330 francs. It will be seen that the bounty protection granted to French-built steamers below 7000 tons is increased not only absolutely, but, in a slight degree, relatively as well. The relative advantages remain practically the same for steamers above 7000 tons. The provisions of the law are so complicated that it is very difficult to make comparisons. It is a curious fact that according to Article III, paragraph 2, steamers above 8400 tons can not receive the navigation premiums for the full period of 15 years, while vessels of 14,500 tons or above can receive the premiums for only 11 years. It is very doubtful if the relative proportion of foreign-built steam tonnage will be appreciably altered by this most curious law. It is pretty likely, however, that the amounts paid out in subsidy will be considerably increased for a time, on account of the higher premiums accorded to French-built steamers, as well as the premiums to steam tonnage purchased abroad.

Not all the bounties in any case will go to the owners of vessels, as 5 per cent will be retained for distribution among the crews, and 6 per cent will be retained as contribution to the marine hospital.

From the standpoint of the state, however, it makes no difference whether it gives the bounty directly to the owner, or pays a portion of his wage bill or other expenses. The 5 per cent bonus to crews is a new scheme, but there is no reason for supposing that it will benefit French sailors any more than the navigation premiums

benefit French navigation. In spite of a long and instructive experience, the French law-makers do not seem to be able to grasp the very palpable fact that a bounty may be and is just as easily and certainly "shifted" as is a tax. The only noticeable difference in the operation of the bounty introduced by this provision will be to increase the cost of administration somewhat by complicating the system and increasing the number of officials.

Vessels engaged in *cabotage international* are more restricted as to bounty-getting capacity, and in this direction the amounts paid out may be somewhat curtailed. The minister of finance thinks that Article VII limiting the increase of tonnage admitted to the benefits of the law to 500,000 tons of steamers and 100,000 tons of sailing vessels will tend to limit the yearly expenditures, but that does not seem probable. It is possible for every vessel in the French merchant marine to draw subsidy to the full amount. The only restriction is that the marine shall not increase above its present tonnage by more than 500,000 tons steam and 100,000 tons sail tonnage,—an event not likely to happen for a long time, unless an entirely new spirit shall take possession of French shipping interests. The minister of finance estimated that the bounties under this law will cost annually 17 to 18 million francs (\$3,281,000 to \$3,474,000), excluding the construction bounties, which remain as before.

It is too early to give statistics illustrating the effects of this last product of the French protectionist legislative genius. It is very likely that a burst of ship-building enthusiasm will keep French yards busy for a while; an over-supply of subsidized ships will force freight rates down somewhat, there will be a waning of

enthusiasm along with declining profits and the French merchant marine will settle back another notch in its long career of decadence. No doubt France could become the greatest ship-building and ship-owning nation in the world if she were able and willing to pay the price; but there are limits to the national income, and the builders and owners are insatiable. The millions now being expended in shipping subsidies are not sufficient to enable France to build and support the luxury of an enormous merchant marine, in the face of unfavorable economic conditions. Besides other nations are quite as able to give subsidies as is France, and, if the French subsidies should grow so large as to threaten seriously the present natural advantages enjoyed by other countries, the latter would no doubt retaliate vigorously. Great Britain herself, as we have seen, is opposed to subsidies only because it is entirely unnecessary for her to pay her subjects to fly the British flag. To France, with her incompetent and pauperized maritime industries, a shipping subsidy "war" could result only in defeat. Such a "war" is not likely to come soon, despite the agitation in England.

POSTAL SUBVENTIONS

Introductory. The subventions paid by France, ostensibly for the furtherance of the mails, are both greater in amount and more influential upon ship-building, navigation, and commerce than are the general premiums upon ship-building and navigation. The history of these payments is long and exceedingly complicated. The conflicting statements made by the different authorities make it impossible to ascertain the facts in many cases. A brief sketch of the more important lines drawing subsidy follows.

Havre to New York, the Antilles and Mexico. In 1857 a contract was made with the Union Maritime Company for a service to New York, Mexico, and the West Indies. No record of any such service previous to 1862 could be found, and the New York service was not established until 1864, when the three services were taken over by the *Compagnie Générale Transatlantique* for a yearly subsidy of 9,300,000 francs (\$1,794,900). The distance to be run every year was 157,968 marine leagues. The services were arranged as follows: for the semi-monthly line between Havre and New York, 55,016 leagues, average speed 11 ½ knots per hour, subsidy 3,000,000 francs (\$579,000) or 55.83 francs (\$10.77) per league; St. Nazaire to the Antilles, 78,672 leagues, average speed 10 knots; Antilles, Cayenne, Vera Cruz and Aspinwall, 27,080 leagues, at 8 knots. The subsidy for the last two services was fixed at 6,300,000 francs. In 1865 some changes were made in the service and the subsidy was reduced by 1,359,220 francs (\$262,329.46). Many minor modifications in the itineraries and in the subventions were made from time to time. For several years previous to 1873 the services in operation were as given in Table No. X.

An agreement concluded December 16, 1873, increased the number of voyages between New York and Havre to forty and the subsidy to 3,644,000 fr. (\$703,292) making the rate per mile 14.69 fr. (\$2.84). Two years before the expiration of the first concession, the government, by the law of June 24, 1883, was authorized to ask for bids for the postal service to the United States and to the Antilles and Mexico. The *Compagnie Générale Transatlantique* secured both contracts for fifteen years, beginning July 22, 1886. The New York service was made a weekly one, the annual average speed was

TABLE X

	Length of round voyage (in 1000 miles)	Number of trips per year	Distance run yearly (in 1000 nautical miles)
Havre to New York	6	26	165
St. Nazaire to Vera Cruz	11	12	
Annexed lines	4	12	189
St. Nazaire to Aspinwall and an- nexed lines	9	12	162
Total			<u>516</u>

	Subsidy (in 1000 francs).	(In 1000 dollars).	Rate per mile.
Havre to New York	3170 =	611	19.21 fr. = \$3.71
St. Nazaire to Vera Cruz, an- nexed lines	3451 =	666	18.21 fr. = \$3.51
St. Nazaire to Aspinwall and annexed lines	3074 =	593	18.94 fr. = \$3.66
Total	9695 =	1871	18.76 fr. = \$3.62

increased to a minimum of 15 knots and the minimum size of steamers was fixed at 5000 tons. The subsidy was at the same time increased to 5,480,000 fr. (\$1,057,640), making the rate per mile 16.53 $\frac{1}{3}$ fr. (\$3.19). To encourage the company to build larger and faster steamers, a speed bounty was granted by the act above mentioned at the rate of 12 francs (\$2.32) per gross ton for every $\frac{1}{10}$ of a knot made by steamers above the minimum annual average of 15 knots. For example, a steamer of 8000 gross tons, making an average speed of 16 knots on its regular mail contract voyages for the year, would be entitled to a speed premium at the end of the year equal to 12 francs per gross ton for every $\frac{1}{10}$ knot above 15 knots made in its record for the year, or 12 fr. \times 8,000 \times 10 = 960,000 fr. (\$185,280). The total expenditure for speed subsidy was limited to 1,200,000 fr. (\$231,600) per year. Since 1892 the company has been earning the maximum speed subsidy, so that the total subsidy received, barring failures in ser-

vice is 6,440,000 fr. (\$1,242,920) per year or at the rate of 22.47 fr. (\$3.89) per mile.

In 1898 a new agreement was made between the government and the company, whereby the concession terminating July 21, 1901 was extended to July 21, 1911. The company bound itself to construct in French ship-yards three and eventually four new steamers for the New York-Havre service. These steamers must develop a speed on trial of at least 22 knots. One of these steamers was put in commission April 1, 1900, and another July 1, 1900. If on July 1, 1905, it be found that the new steamers have attained a speed ten per cent less than that of the steamers of competing lines, the French company agrees to build another steamer, to be ready April 1, 1908, which shall be fully equal to the best models of ocean mail steamships afloat at that time. The minimum average speed to be attained under the new agreement is fixed at the following rates: from April 1, 1900, 17 knots; from July 1, 1900, 17.5 knots; from April 1, 1903, 18.3 knots; from putting in commission of the fourth new steamer, if necessary, 19 knots. If any vessel exceed the annual average, it shall be entitled to a speed subsidy at the rate of 25 fr. (\$4.825) per gross ton for every one tenth knot in excess. If the speed agreed upon is not attained, the same rate can be exacted by the government from the company as penalty. From July 22, 1901 to July 21, 1911, the amount of the subvention is fixed at 5,000,000 fr. (\$965,000) with a maximum speed bounty of 1,680,000 fr. (\$324,240).

Algeria, Tunis, and Morocco Service.—The law of August 16, 1879 authorized the minister of posts and telegraphs to expend not more than 1,200,000 fr. (\$231,600) per annum for a period of fifteen years to

steamship lines which should be established (1) Between Port Vendres and Algiers; (2) Algiers and Bona; (3) Marseilles and Oran; (4) Port Vendres and Oran; (5) Marseilles and Philippeville; (6) Marseilles-Bona and Tunis; (7) Tunis and Tripoli. It was stipulated that vessels must be not less than 200 tons or 400 tons with a speed of nine, ten, or twelve knots, according to the service.

The *Compagnie Générale Transatlantique* undertook the services for an annual subsidy of 493,500 fr. (\$95,245.50), to continue from July 1, 1880 to June 30, 1895. By an agreement of December 16, 1896, this service is now shared between three steamship companies.—*La Compagnie Générale Transatlantique*, *La Compagnie de Navigation Mixte*, and *La Société Générale de Transports à Vapeur*. The subsidy was increased to 1,600,000 fr. (\$308,800) per year, and the maximum speed bounty was limited to 400,000 fr. (\$77,200). The total amount paid in 1898 for mail subsidy and speed bounty was 1,692,655 fr. (\$326,682).

Corsica.—Under a provisional agreement, the subsidized postal service between France and the Island of Corsica is carried on by the *Compagnie Générale Transatlantique* and the *Compagnie Fraissenet* for an annual subsidy of 355,000 fr. (\$68,515). The subsidy was reduced in 1886 from 375,000 fr. (\$72,375).¹

Mediterranean and Black Sea Lines.—On February 28, 1851, a convention was made for twenty years between the French government and the *Messageries Maritimes Compagnie* stipulating a subsidy of 3,000,000 fr. (\$579,000) a year during the first ten years for a

¹ Much of the data for the French mail lines is contained in special consular reports, vol. 18 (1900), pp. 27-29; and consular reports, No. 30 (1883), pp. 610, 611.

service to the principal ports of the Eastern Mediterranean. The subsidy was to be diminished by 100,000 fr. (\$19,300) a year throughout the last ten years of the contract. In January, 1852, the subsidy was increased to 3,076,091 fr. (\$593,685.56). By a convention of May 20, 1857, which by ministerial decree of June 2, 1864, was extended to July 22, 1888, the amount of the subsidy was raised to 4,776,118.40 fr. (\$921,790.85) for a yearly navigation of 188,300 marine leagues, divided into nine different lines, all of them within the Mediterranean Sea. The rate per mile was thus 8.455 fr. (\$1.632). The contract stipulated that the company should have at least fifteen steamers, six of 220 horse power and nine of 160 horse power. (Horse power as here used denotes "nominal" horse power and has no necessary relation to the real or "indicated" horse power.) The extent of this service has since been much curtailed, so that in 1898 the lines from Marseilles to Greece, Turkey, Asia Minor, and Egypt received only 1,351,666 fr. (\$260,872),—an average of 4.542 fr. (0.88) per sea mile for a service maintained at an average speed of 13 knots.

Brazilian Line.—The convention of September 16, 1857, with the *Messageries Maritimes Compagnie* for the postal service to Brazil for a term of twenty years went into effect in 1860. The contract provided an annual subvention of 4,700,000 fr. (\$907,100) for traversing a distance of 101,232 marine leagues, or a rate of 15.476 fr. (\$2.987) per sea mile. The line between Marseilles and Rio Janeiro was suppressed by a convention of April 22, 1861, and the subsidy reduced to 2,306,172 fr. (\$445,091.20). Under the latter agreement the company was to have 10 steamers, 7 of which must possess at least 450 horse power (nominal), and 3

at least 200 horse power each. The speed stipulations called for 9 knots an hour on the line from Bordeaux to Rio Janeiro, and 8 knots on the line from Buenos Ayres. This agreement was afterward extended to 1884.

Indo-China and Japan Line.—On April 22, 1861, an agreement was made between the French government and the *Messageries Maritimes* granting to the company for twenty-one years a subvention of 7,500,000 fr. (\$1,447,500) for the first three years; 7,000,000 fr. (\$1,351,000) for the next three years; 6,500,000 fr. (\$1,254,500) for another three years; 6,000,000 fr. (\$1,158,000) for another three years; 5,500,000 fr. (\$1,061,500) for the following six years; and 5,000,000 fr. (\$965,000) for the last six years of the contract. The service included the principal monthly line between Suez and Saigon, touching at Aden, Point de Galle, Penang, and Singapore. Of the subsidiary lines, all monthly, the first was established between Aden and the islands of Reunion and Mauritius; the second between Point de Galle and Chandernagore, touching at Pondichery, Madras, and Calcutta; the third between Singapore and Batavia; the fourth between Saigon and Manila; the fifth between Saigon and Hongkong. By convention of June 2, 1864, the line from Saigon to Manila was suppressed and in its place was substituted another monthly line from Shanghai to Yokohama. The subsidy was increased by 341,301 fr. (\$65,871.09) a year. The line from Mauritius to Aden was extended to Suez with an increase of 256,631 fr. (\$49,529.78) per annum in the subsidy. The total yearly distance to be run was fixed at 112,194 marine leagues and the total annual subsidy was increased to 7,597,932 fr. (\$1,466,500.88) for the first three years of the new contract (1864-'66.)

By convention of April 6, 1868, the company engaged to prolong the Suez line to Hongkong; to make Hongkong instead of Saigon the point of departure for the subsidiary line to Shanghai; to establish a direct line from Hongkong to Yokohama; to make 26 round voyages instead of 12 on the main line between Suez, Hongkong and Yokohama, and between Hongkong and Shanghai; to increase by one voyage per year the service on all the subsidiary lines. For this increase of about 90,812 marine leagues in the distance to be run every year there was conceded an average subvention of 37.50 fr. (\$7.23 $\frac{3}{4}$) per marine league (12.50 fr. per mile), or 3,405,450 fr. (\$657,251.85) a year, payable monthly. The total subvention to which the company's steamers were entitled in 1869, for the Indo-China-Japan services alone was 10,503,383 fr. (\$2,027,152.73). In 1898, for the lines running between Marseilles and Indo-China, China, and Japan, and the branch lines between Colombo and various Indian ports, and between Singapore and Batavia, the amount of subsidy paid was 6,085,032 fr. (\$1,174,411), the rate per marine league being 31 fr., or 10.33 $\frac{1}{3}$ fr. (\$1.994) per sea mile, and the average speed required, 13 knots on the main line and 11.5 knots on the branch lines.

Australian Line.—A convention made June 25, 1881, which went into effect in October, 1882, stipulated for a subvention of 3,297,216 fr. (\$636,362.69) per year for fifteen years for traversing yearly a distance of 103,038 marine leagues (32 fr. per league) on the Australian service. The minimum average speed limit was placed at 11 knots. In 1898 the subsidy for this service had diminished to 3,107,936 fr. (\$599,832), the rate being 31 fr. (\$5.983) per marine league, while the speed limit had been raised to 14 knots.

A report issued by the *Messageries Maritimes Compagnie* in 1881 stated that in 1879 the income from passenger and freight traffic was 31,603,566 fr. (\$6,099,488.24) while the government subventions amounted to 14,057,392 fr. (\$2,713,076.66); in 1880, the income from passenger and freight traffic was 32,951,719 fr. (\$6,359,681.77), and the amount of the subventions, 14,097,396 fr. (\$2,720,797.43). Thus the subventions formed nearly one-third of the total income of the company. In 1880 the company owned fifty-six steamers, mostly large vessels, having a total of 24,270 horse power (nominal). The distance run by the whole fleet in that year was 1,781,058 nautical miles, of which the obligatory postal service was 1,401,549 $\frac{1}{3}$ miles, optional service, 329,148 $\frac{2}{3}$ miles, and service of particular urgency 54,359 miles.

As nearly as could be ascertained, the total subsidies collected by this company at present are somewhat more than 13,000,000 francs per annum, *i. e.*, about one-half of the entire yearly expenditure of France in so-called postal subventions.

African Lines.—For the line between Marseilles and the east coast of Africa and the Indian Ocean, the amount of subsidy paid in 1898 was 1,924,640 fr. (\$371,456) or 20 fr. (\$3.86) per marine league. The average speed required is 12 knots. The subsidized postal service between Havre and the west coast of Africa is maintained by the *Chargeurs Réunis*, and between Marseilles and the same coast, by the *Compagnie Fraissenet*. The amount of subsidy paid in 1898 to the two companies was 500,850 fr. (\$96,664), the annual average speed required being 9 knots.

Calais-Dover.—Between Calais and Dover, the subsidy paid the northern Railway of France for carrying

the mails was, until 1897, 100,000 fr. (\$19,300) per year. Since that time it has been 250,000 fr. (\$48,250) for a daily service at an average speed of 15 knots.

Table No. XI gives the postal subsidies paid by France from 1860 up to 1900. The figures for the years from 1860 to 1884 are taken from Belloc's "*Les postes francaises*", p. 757, ff.; the remaining figures were gathered from the *Bulletin de statistique* and the *Annuaire statistique*.

TABLE XI
(In 1,000,000 francs)

Year	Postal sub- vention	Year	Postal sub- vention	Year	Postal sub- vention	Year	Postal sub- vention
1860	6	1871	22	1882	24	1893	25
1861	7	1872	26	1883	26	1894	24
1862	10	1873	26	1884	26	1895	25
1863	16	1874	24	1885	26	1896	25
1864	17	1875	24	1886	26	1897	25
1865	20	1876	24	1887	27	1898	26
1866	23	1877	23	1888	25	1899	26
1867	23	1878	23	1889	25	1900	25
1868	23	1879	23	1890	24	1901	--
1869	23	1880	23	1891	25	1902	--
1870	23	1881	23	1892	25	1903	--

From 1893 to 1898, the total additions to the French steam marine were apportioned as follows: steamers less than 1000 tons, 46 of 12,941 tons; subsidized steamers, 6 of 32,219 tons; steamers engaged in trade reserved to French vessels only, 10 of 22,043 tons; total 62 steamers of 67,203 gross tons. On the other hand, the steamers trading in competition with foreign vessels *decreased* by 4 steamers and 242 tons, leaving a net gain of 66,961 tons gross.¹ This would lead to the supposition that the mail subsidies have been more successful than the general subsidies, at least so far as keeping the French flag afloat on the seas is concerned.

¹ See U. S. special consular reports, vol. 18, p. 19.

A priori this seems probable, for the mail subventions are larger in amount and are paid out under definite, long-term contracts for specific objects. The growth of the two most important navigation companies of France from 1891 to 1901 was as follows:²

Messageries Maritimes, 63 steamers of 202,801 tons (1891): 62 steamers of 246,277 tons (1901).

Compagnie Générale Transatlantique, 66 steamers of 174,600 tons (1891): 59 steamers of 183,243 tons (1901).

Total, 129 steamers of 377,401 tons; 121 steamers of 429,520 tons.

During the same time the French steam merchant marine grew from 542 steamers of 848,522 tons, to 679 steamers of 1,068,036 tons. The two subsidized lines possessed nearly 44½ per cent. of the total merchant tonnage of 1891, and only 40.2 per cent. in 1901. This decline in relation to the marine in general was more marked in the case of the *Compagnie Générale Transatlantique* which possessed nearly 20.6 per cent. of all steam tonnage in 1891, and only 17.1 per cent. in 1901, while the relative proportion of the *Messageries* declined from 23.9 per cent. to 23.1 per cent. The greater falling back in the former company is doubtless due to the sharper competition on the North Atlantic and to the absolutely and relatively smaller subventions received. For many years more than half of the total steam tonnage of France has been owned by the four subsidized lines. In 1901, the above two companies and the *Chargeurs Réunis* owned 510,669 tons. These figures illustrate strongly the monopolistic tendency of these special mail subsidies.

² See Jour. stat. soc. of London, 1901; Article, "Shipping subsidies" by B. W. Ginsburg, pp. 483-4.

The mail subventions are supposed to be payments in return for services rendered; the general bounties are admittedly payments in return for inability to render services. As a fact the mail subventions are and must be in part real subsidies to inefficiency. The greater part of these concealed subsidies undoubtedly goes to the shipbuilders, for all mail contract steamers must be built in French yards of French materials. These first costs are estimated to be from 25 to 50 per cent. greater in France than in England. Of course, it is absolutely idle to talk of the French mail subventions as being arranged on a basis of the "cost of service". Normal costs are determined by free competition and there is absolutely no competition in the letting of French mail contracts. Even if there were, the rate of subvention could have no possible relation to international freight rates, which is the only rational basis for computing the normal costs. When the French writers speak of the "costs of service" they mean generally an amount necessary to render navigation profitable to the contracting company,—an unknown quantity having a minimum but no maximum from the companies' point of view. If the government chose to give twice twenty-six million francs in mail subventions, the "costs of service" would absorb the whole amount. First costs for the necessary fleet, docks, etc., would be doubled and so on down the line in beautiful procession. The government can make the service just as costly as it pleases, so long as the tax-payers continue to foot the bills.

There is a prevalent belief that France exacts no requirements as to the manning of her subsidized vessels. This is not true, for the Navigation Act of 1793, among other provisions, required that on all vessels of French

registry, the officers and three-fourths of the crew must be French citizens. This provision holds true of all French vessels, subsidized or not, excepting those vessels for which special provision was made in the law of 1902.

CONCLUSION

Table No. XII gives the tonnage, sail and steam, of the French marine since 1870, together with the French tonnage engaged in the foreign trade of France including *cabotage international*, and the percentage of the same to the total tonnage engaged in this trade. The figures vary from some of the "official" figures, but the differences are slight.

One of the most significant facts shown by this table is the steady and rapid decline in sail tonnage until 1896. The law of 1881 apparently had no effect toward checking this decline. The law of 1893 gave such an impetus to the construction of wooden and iron sailing ships that within six years, the sail tonnage of France had increased nearly as much as it had declined during the fourteen years previous to 1896. This result appears to be due entirely to the action of the law, for no other change in economic conditions can be suggested, which would have had any marked effect in checking the steadily waning importance of sailing craft in France as in other countries. Few even of the most radical partisans of subsidies to the merchant marine are prepared to defend this bounty which so completely overturns the natural order of things, causing the more efficient carrier to be superseded by the less efficient. The last two columns show the progress, absolute and relative made by the French marine in the foreign trade of France during the period covered. It

will be noticed that, while there has been a considerable increase in the tonnage of French vessels engaged in the foreign trade, there has been a pretty constant decline in the percentage of French tonnage to the total tonnage since 1886.

Table No. XIII gives the value in millions of francs of imports and exports of France carried in French ships, and in foreign ships and the percentage of the same carried by French ships, for eleven different years, chosen with the intention to show the effect

TABLE XII
(Amounts in 1000 tons)

Years	No	Sail Tonnage	No.	Steam Tonnage
1870-----		917		154
1875-----	14,904	822	537	205
1876-----	14,861	792	546	218
1877-----	14,884	758	565	230
1878-----	14,939	730	588	245
1879-----	14,434	676	599	255
1880-----	14,406	641	652	277
1881-----	14,391	602	735	311
1882-----	14,368	566	832	416
1883-----	14,327	536	895	467
1884-----	14,414	522	938	511
1885-----	14,329	507	937	492
1886-----	14,400	492	951	500
1887-----	14,253	465	984	506
1888-----	14,263	451	1015	509
1889-----	14,128	440	1066	492
1890-----	14,001	444	1110	499
1891-----	13,890	426	1157	521
1892-----	14,117	407	1161	498
1893-----	14,190	396	1186	498
1894-----	14,332	398	1196	491
1895-----	14,386	386	1212	500
1896-----	14,301	390	1235	503
1897-----	14,352	421	1212	499
1898-----	14,406	414	1209	485
1899-----	14,262	450	1227	507
1900-----	14,313	510	1272	527
1901-----	14,393	564	1299	546

of the shipping subsidies upon the activity of French shipping. It will be noticed at first glance that the proportion of value of merchandise carried by French ships does not vary in accordance with the variations in the proportion of French tonnage engaged in the trade. From 1870 to 1880, French tonnage engaged in the foreign commerce of France declined from 32.6 per cent to 30 per cent due entirely to the rapid decrease in sail tonnage. Steam tonnage increased absolutely and relatively during this premium period,—a perfectly normal phenomenon, in-

TABLE XII (CONTINUED)

Years.	No.	Total Tonnage	French ton- nage engaged in foreign commerce of France	Per cent. ¹ of French to total ton- nage in French trade
1870-----		1072	5,456	32.6
1875-----	15,441	1028	4,884	36.2
1876-----	15,407	1011	5,072	35.8
1877-----	15,449	989	5,555	37.2
1878-----	15,527	975	5,571	34.5
1879-----	15,033	932	5,691	33.1
1880-----	15,058	919	7,522	30.0
1881-----	15,126	914	8,127	32.7
1882-----	15,200	983	8,527	32.6
1883-----	15,222	1003	9,469	34.1
1884-----	15,352	1033	8,919	34.3
1885-----	15,266	1000	9,216	35.4
1886-----	15,351	993	9,598	35.9
1887-----	15,237	972	10,051	36.2
1888-----	15,278	961	10,036	35.2
1889-----	15,194	932	9,886	36.1
1890-----	15,111	944	9,254	31.9
1891-----	15,047	948	9,704	30.7
1892-----	15,278	905	8,455	38.0
1893-----	15,376	895	7,844	33.9
1894-----	15,528	890	7,625	33.7
1895-----	15,598	887	8,531	30.5
1896-----	15,536	894	9,133	30.4
1897-----	15,564	920	9,551	30.3
1898-----	15,615	900	9,536	28.4
1899-----	15,489	957	10,137	28.4
1900-----	15,585	1037	9,011	28.8
1901-----	15,692	1110	9,994	31.9

¹ These figures are taken from the *Almanach de Gotha* and include only vessels entering or clearing with cargo, while the other figures are taken from U. S. consular reports, and include all entrances and clearances of French vessels.

TABLE XIII

Value of imports and exports carried in ships in millions of francs

	IMPORTS			
	Carried in French ships	Carried in foreign ships	Total carried in ships	Per cent. carried in French ships
1872----	1401	1503	2905	48.2
1880----	1368	2754	4122	32.2
1882----	1491	2366	3857	38.6
1885----	1328	1988	3317	40.1
1886----	1401	2058	3459	40.5
1890----	1575	2245	3821	41.2
1892----	1550	2147	3679	42.1
1894----	1422	2002	3414	41.5
1895----	1625	1831	3457	47.0
1897----	1614	2083	3697	43.6
1900----	1672	2405	4078	41.0
1901----	1576	2277	3844	41.0

	EXPORTS			
	Carried in French ships	Carried in foreign ships	Total carried in ships	Per cent. carried in French ships
1872----	1505	1776	3282	45.9
1880----	1359	1704	3063	44.3
1882----	1579	1665	3245	48.6
1885----	1338	1328	2667	50.2
1886----	1501	1432	2933	51.1
1890----	1793	1512	3306	54.2
1892----	1741	1360	3101	56.1
1894----	1525	1326	2851	53.4
1895----	1699	1476	3176	53.4
1897----	1641	1628	3269	50.2
1900----	1822	1809	3631	50.1
1901----	1674	1739	3413	49.0

	TOTAL			
	Carried in French ships	Carried in foreign ships	Total carried in ships	Per cent. carried in French ships
1872----	2907	3280	6187	47.0
1880----	2727	4458	7186	38.0
1882----	3071	4032	7102	43.2
1885----	2667	3317	5985	44.5
1886----	2903	3490	6393	45.4
1890----	3369	3758	7128	47.2
1892----	3291	3507	6799	48.5
1894----	2947	3328	6276	47.0
1895----	3325	3308	6633	50.1
1897----	3256	3711	6967	46.7
1900----	3505	4214	7719	45.5
1901----	3251	4016	7268	44.7

dicative of real progress. During the same period, however, the percentage of foreign commerce (value) carried by French ships declined from about 47 per cent to 38 per cent. From 1881 to 1886 the tonnage increased to 35.9 per cent, a gain of 5.9 per cent, while the value carried increased only .9 per cent. From 1886 the decline in the percentage of French tonnage to total tonnage has been pretty steady. It is a fact that in general the proportion of loaded French vessels is relatively greater than that of foreign vessels. This seems to contradict the well substantiated fact that French vessels, especially sailers, run in ballast merely for the bounty. The apparent contradiction is explained by the fact that it is very difficult for foreign ships to obtain cargo in French ports, which accounts for the very large number of foreign vessels clearing in ballast. On the other hand, the proportion of merchandise carried by French ships increased pretty constantly up to 1895 when it reached its highest point. Since that time the decline has been constant, both in imports and exports. The preference of French exporters for French ships is shown by the very considerable difference between the import and the export percentages.

In final summary of the effects of subsidy legislation in France since 1880, we may say that the laws, in so far as they increased profits, tended to increase the merchant marine; but, in so far as they deadened private enterprise, they tended to decrease it. The statistics show that before 1881 the total tonnage decreased rapidly. It does not necessarily follow from this alone that the commercial fleet declined in efficiency. The statistics of commerce, however, do show that the merchant marine was declining in activity. The law

of 1881 seems to have increased the tonnage and activity of the marine for a time. In recent years the tonnage has increased but the activity and efficiency have decreased. On the whole, the bounties appear to have operated more strongly toward increasing than toward decreasing the marine. But this does not mean that the bounties have built up the shipping interests. On the contrary, the evidence goes to show that they have sapped the vitality and soul from French maritime enterprise and left it a giant "infant industry" whose weakness increases with its growth.

GERMANY

BOUNTIES ON CONSTRUCTION AND MAIL SERVICE

Legislation in aid of national shipping is of very recent origin in Germany. The law of July 15, 1879, first granted free entry to all materials, fixtures, and even guns, used in the construction, repair and equipment of both war and merchant vessels. On April 6, 1881, Prince Bismark submitted to the German Reichstag a long memorial, reviewing in detail the French subsidy act of January 29, 1881, and mentioning the postal subventions of the different maritime countries. Bismark saw the need of wider markets for the growing industries of Germany, and he maintained that the correct policy was to follow the example of France. In the closing sentence of his memorial, he said: "Whether, under the given conditions, Germany's shipping and commerce will be able to continue their prosperous development in the face of the state-aided competition of other nations, is deserving of serious consideration."¹

¹Stenographische Berichte, (1881), vol. III, p. 535.

In 1884 a bill was passed by the Bundesrath, proposing to give four million marks from the Imperial Treasury to establish a mail steamship service between Germany and Australia and East Asia. The bill could not be brought to a vote in the Reichstag before the close of the session, owing to the strong opposition. On November 20, 1884, a new bill approved by the Bundesrath was submitted to the Reichstag. This bill increased the subsidy to 5,400,000 marks (\$1,285,200) and added a line to Zanzibar, touching at Rotterdam or Antwerp, Havre or Cherbourg, and several East African ports, with a branch line connecting Venice or Trieste with the main Australian line at Alexandria. The bill was amended and finally passed in March, 1885, becoming law April 6, 1885. It provided for fifteen year contracts for a line of steamers to Eastern Asia with a subsidy of 1,700,000 marks (\$404,600) a year, a line to Australia with 2,300,000 marks (\$547,400) a year, and a branch line connecting Alexandria and Trieste with 400,000 marks (\$95,200) a year,—a total annual subsidy of 4,400,000 marks (\$1,047,200). The contracts were given to the North German Lloyd Company and went into effect in the same year (July 3, 1885).

A law of January 21, 1890 provided a subvention of 900,000 marks (\$214,200) a year for a period of ten years to the East African line from Hamburg to Rotterdam, Lisbon, Naples, Port Said, Suez and the ports of East Africa as far north as Delagoa Bay.

In 1892, the North German Lloyd Company abandoned the Mediterranean line because it was unprofitable and the subsidy of 400,000 marks was, of course, discontinued. On March 20, 1893, a supplementary law granted a sum, not to exceed 100,000 marks (\$23,800) for a line connecting some southern European

port with the lines to East Asia and Australia at Alexandria. The service was undertaken by the North German Lloyd Company for 90,000 marks (\$21,420).

In 1896, an agitation was made in favor of a further subvention to establish a fortnightly service between Germany and China. A Bill was brought before the Reichstag in November, 1897, granting a further 1,400,000 marks to the North German Lloyd for this service. The reasons given for increasing the subsidy were: (1) the importance of placing the German mail service to the East on a par with the services of England and France, (2) the benefits to commerce, and (3) the aid to the national defense. It was maintained that the law of 1885 had been a great success. The traffic of the China and Australian lines (exclusive of precious metals) amounted in 1888 to 58,477 tons valued at 74,500,000 marks, while in 1895 it had increased to 152,415 tons, valued at 139,400,000 marks. The weight of merchandise carried had increased 150 per cent. and the value had nearly doubled. On the China line, the goods carried had increased from 34,000 to 77,000 tons and on the Australian line, from 24,000 to 75,000 tons. The total export of goods of German origin (exclusive of commission trade) from Germany to China increased in ten years from a value of 16,800,000 marks to 35,400,000 marks; exports to Japan increased from 4,500,000 marks to 26,000,000 marks, and to Australia from 5,800,000 marks to 23,400,000 marks. The import trade from China was 94,000 marks in 1885 and 18,480,000 marks in 1895; Japan, 200,000 marks in 1885 and 7,780,000 marks in 1895; Australia, 9,080,000 marks in 1885 and 118,480,000 marks in 1895. Of the total exports and imports about forty per cent. was carried in the ships of the Imperial Mail Service. A large

share was therefore carried by the independent lines. The Kingsin line, with a fleet of thirteen ships carried 41,000 tons of merchandise, and the Rickmer's China line, with seven ships, carried 30,000 tons.¹

The indirect advantages claimed for the subvention were quite as great as the direct advantages. From the institution of the system dates the success of German ship-building. (?) Till that time all large ships for German companies were ordered in England. Now, all large ships for German trans-Atlantic lines are built in Germany. It was estimated that the following amounts were expended in German yards on account of the subventions from 1885 to 1897. For building, 16,600,000 marks; for repairs, 5,400,000 marks; and for extraordinary repairs, 2,880,000 marks. Besides this, the North German Lloyd spent 30,000,000 marks for coal, provisions, etc., supplied from Germany, so that, though the company had received during nine and a half years, 59,000,000 marks in subventions, it had spent nearly 60,000,000 marks for products of German industry! The appalling irrationality of these "reasons" for increasing the subventions are too apparent to merit discussion.

It was further pointed out that the German line was at a disadvantage, compared with the French and English lines, in having only a monthly service with slower vessels, instead of a fortnightly service. Commercial reasons for improving the service were strongly urged. It was asserted that, of the imports into China, amounting to 180,000,000 taels a year, 115,000,000 taels came from Great Britain and only 18,000,000 taels from Germany. Japan's yearly imports were valued at 121,-

¹ See Parliamentary papers, Commercial No. 2 (1898) under Germany.

000,000 yen, of which Great Britain's share was 42,000,000 yen and Germany's share only 8,000,000.

The North German Lloyd agreed, in event of the additional subsidy being granted, to provide a fortnightly service to China; to send ships direct to Japan; to fix the speed of their existing mail ships at 13 knots, and of the ships to be constructed in future at $13\frac{1}{2}$ knots; and to meet all requirements of the Admiralty as to ships and crews. The *Entwurf* provided for the building of four new vessels at a cost of 13,000,000 marks. The measure was approved by the Bundesrath, but was dropped in June, 1897, because of the opposition in the Reichstag. It was brought up at the next session and finally became law, April 13, 1898. The subsidy was increased 1,500,000 marks (\$357,000) a year for extending the East Asiatic service to China direct and for making the whole service fortnightly. The contract was extended for another fifteen years. The average speed on the China-Japan line was fixed as follows: between mail ports in Europe and the terminal port in Eastern Asia, 13 knots for old and 14 knots for new steamers; on branch lines, 12.6 knots; on the Australian line the speed between the ports of call in Europe and the terminal port in Australia must average 12.2 knots for old steamers and 13.5 knots for new. If foreign competing lines increase the speed of their vessels, the company is bound to do likewise, and without additional subsidy, unless the foreign companies shall receive extra payment.

The total subvention now paid by the German government for the Asiatic and Australian services is 5,590,000 marks (\$1,330,420). By a contract between the North German Lloyd and the Hamburg-America Line, made January 10, 1899, the latter line receives a

part of this subvention. In 1901, the subvention to the German East-Africa Line was increased to 1,350,000 marks (\$321,300), so that Germany now pays altogether 6,940,000 marks (\$1,651,720) per annum in post subventions.

The mail routes and the annual subventions from 1893 to 1897 inclusive are given in Table XIV.

The German officials and writers on this subject now affirm that the postal subventions are merely payments for services performed for the government on the "cost basis." This opinion is contradicted by the memorials submitted to the Reichstag by Bismark, and by the debates on the different measures. The memorandum submitted in 1890 expressly states that "the annual sums to be granted as postal subventions can not be regarded merely as payment for services rendered"; but that they are "value also paid for important interests of the German *export industry*, the requirements of the navy, and of a colonial policy." It is evident from this, that the subventions were not originally granted as mere payments of a business nature for carrying mails. The smallness of the amounts granted, relatively, is partly due to the efficiency of German shipping and partly due to the fact that the government grants other favors to German shipping which do not appear in the contracts, but which nevertheless increase the profits of the steamship companies.

In addition to the free importation of the materials of construction, and the preferential railway rates on the like materials, the state grants special assistance to the German Levant Line and to the German East-Africa Line, both of Hamburg, in the shape of special through freight rates on merchandise exported from inland Germany to East Africa and the Levant. These

TABLE XIV

Contracting company	Routes	Trips per annum	Miles run per annum (in 1000 miles)	No. of steamers required	Minimum net ton of each steamer (in 1000 tons)	Speed in knots	Subsidy per annum	Rate of subsidy per mile
North German Lloyd.	{ (1) Bremerhaven-Shanghai--	13	300	5	4.5	12		
	(2) Hongkong-Yokohama---	13	44	1	1.5	11.5	1,790,000 m. (\$426,020) ¹	4.56m. (\$1.083)
	(3) Singapore-New Guinea---	6	48	1	1.5	9		
	(4) Bremerhaven-Sydney ---	13	340	5	3.0	11.5	2,300,000 m. (\$547,400)	6.75m. (\$1.61)
German East Africa Hamburg Line.	(5) Hamburg-Natal -----	13	230	4	2.2	10.5		
	(6) Dar-es-Salaam-German East African ports----	13	15	1	.5		900,000 m. (\$214,200)	3.38m. (\$0.804)
	(7) Mozambique-Portuguese coast ports-----	13	19	1	.5			
Totals	-----	84	999	19	51.8		4,990,000 m. (\$1,187,620)	

¹ Including 90,000 marks for a connecting line in the Mediterranean.

combined land and sea through rates which were introduced for the Levant line on June 15, 1890, and for the East-Africa line April 1, 1895, are lower than those in force on goods sent to German ports for direct exportation by sea. Mr. Albert Aftalion says of them; ¹ "The reduction upon the railways and the boats of the German Levant Line is so great that a quintal (220.46 lbs.) of such merchandise pays only 4 or 5 marks from central Germany to the ports of the Orient, while the transport by Marseilles from the interior of France would cost 15 or 20 marks." These low rates stimulate the export of German merchandise, and thus help the lines to make profits. The goods sent by the Levant line are transported on the Turkish and Bulgarian railways at reduced rates. Besides this the line is subventioned by the Bulgarian government to the amount of 120,000 fr. yearly.

The German customs-tariff law of May 24, 1885, exempted from duties all materials of construction and equipment for sea going vessels, and the laws of 1889, 1892, and 1893 made additions to the list of free materials.

PREFERENTIAL RAILWAY RATES

Perhaps a discussion of the preferential rates given by the state railways of Germany does not legitimately belong in a study of government shipping subsidies, but the importance of the German merchant marine, and the assertions so often made that it owes its rapid growth to the various aids granted by the government, makes it necessary to consider this special form of indirect bounty. The state railway rates in force, October, 1895, gave a preferential rate on ship-building

¹ *Revue d'Economie Politique*, vol. 15, p. 184.

materials of 1.7 pfennigs per ton-kilometer plus 12 pfennigs booking fee instead of the ordinary rate of 4.5 to 3.5 pfennigs plus 12 pfennigs booking fee. The same rates were applied to rivets, screws, nails, plates, nuts, wire, files, ships' chains, frames, anchors, and all other materials used in shipping. Recent agitation has caused still further reductions to be made for certain materials, as rough iron plates, etc., in view of the lower prices of these materials in the United Kingdom.

The English consul general at Berlin in 1898 wrote:¹ "In no case is the state railway administration prepared to sacrifice income, not even for the purpose of aiding German coal-owners or merchants in exporting coal to London." Just why it should occur to the state railway administration that the export of German coal to London is in itself a highly desirable transaction, is puzzling. It is certain that these preferential rates do reduce expenses, increase business, and add to the margin of net profit between the freight charge and the cost of transport for the steamship companies. At the same time they are not large and depend so greatly upon the activity and enterprise of the companies themselves that, as yet, no demoralizing effect is discernible.

CONCLUSION

The development in trade over the North German Lloyd lines is shown in Table No. XV. Though the trade is not great, it is prosperous and increasing.

From 1890 to 1898, the East Africa Line increased the tonnage of its fleet from 4394 tons to 27,125 tons, while its outward bound traffic increased from 388 tons to 1877 tons and the homeward bound traffic increased from 1302 tons to 2862 tons yearly. Such a microscopic

¹ See Commercial No. 2 (1898).

TABLE XV
(Amounts in 1000)

Year	German East Asiatic Line (North German Lloyd)				German Australian Line (North German Lloyd)			
	Outwards.		Homewards.		Outwards.		Homewards.	
	Tons	Value	Tons	Value	Tons	Value	Tons	Value
1888----	18	£951	15	£1410	8	£676	15	£614
1889----	21	985	17	1768	10	633	13	609
1890----	19	1050	15	1455	14	677	20	885
1891----	17	861	20	1476	12	697	20	877
1892----	16	916	21	1593	12	597	18	785
1893----	23	1289	24	1772	17	607	23	1031
1894----	37	1372	34	2771	24	798	25	999
1895----	41	1464	35	2785	36	1130	38	1457
1896----	45	2233	33	2712	43	1415	43	1503
1897----	43	2658	30	3292	51	1615	52	1896

Compiled from reports in Commercial No. 2 (1898).

volume of trade between Germany and East Africa does not indicate any very powerful influence from the preferential railway tariffs. The increase in the company's fleet is not, however, due to inordinate postal subventions, for during these years it received only 900,000 marks per annum, a rate of \$0.804 per mile steamed. The increase in tonnage is in fact due to the profitableness of trade along the coast, and has no vital relation to the mail or other subsidies. The German Levant line refuses to make public any statement of its business. Its fleet has increased from a tonnage of 7014 in 1890, when the line was started, to 26,405 tons in 1898, showing that its trade must have increased rapidly. What portion of this increase belongs to Germany, can only be surmised.

In Table No. XVI is given the official statistics of the German merchant marine since 1871. Endless statistical material exists in the *Handels Archiv* and the various official publications, going to show that German shipping is prospering, but it is a waste of time and space to give these statistics in a discussion of the effects of shipping subsidies. In 1894, less than four per cent

TABLE XVI

(In 1000 tons)

	Total shipping		Steam shipping		Sailing shipping	
	No.	Tonnage	No.	Tonnage	No.	Tonnage
1871-----	4579	982	147	81	4372	900
1874-----	4495	1033	253	167	4242	866
1877-----	4809	1103	318	180	4491	922
1880-----	4777	1171	374	196	4403	974
1881-----	4660	1181	414	215	4246	965
1882-----	4509	1194	458	251	4051	942
1883-----	4370	1226	515	311	3855	915
1884-----	4315	1269	603	374	3712	894
1885-----	4257	1294	650	413	3607	880
1886-----	4135	1282	664	420	3471	861
1887-----	4021	1284	694	453	3327	830
1888-----	3811	1240	717	470	3094	769
1889-----	3635	1233	750	502	2885	731
1890-----	3653	1433	896	723	2757	709
1891-----	3639	1468	941	764	2698	704
1892-----	3728	1511	986	786	2742	725
1893-----	3729	1522	1016	823	2713	698
1894-----	3665	1553	1043	893	2622	660
1895-----	3592	1502	1068	879	2524	622
1896-----	3678	1487	1126	889	2552	597
1897-----	3693	1555	1171	969	2522	585
1898-----	3713	1639	1223	1038	2490	601
1899-----	3759	1737	1293	1150	2466	587
1900-----	3883	1941	1390	1347	2493	593
1901-----	3959	2093	1463	1506	2496	586

of the net tonnage of Germany's merchant fleet received direct subventions. It can not be actually much greater now, although it is difficult to estimate, because the mail steamships are not exclusively employed in carrying the mails. As a matter of information it is interesting to learn that in 1880 German shipping made up but 39.1 per cent of the total tonnage entered and cleared at German ports, while in 1900 the proportion was 59.2 per cent. Of vessels carrying cargo, 49 per cent were German in 1880 and 61.7 per cent in 1900. In 1875 only 17.8 per cent of the net tonnage of the German merchant fleet consisted of steam tonnage; in 1880 it

had sunk to 16.7 per cent; 1890 it was 46.7 per cent; in 1895, 57.6 per cent; and in 1900, 66.5 per cent. It is true that steam tonnage increased more rapidly after 1881 than before, but to ascribe this acceleration to the mail subventions is too ridiculous to be amusing. A certain class of people in England and especially in the United States read the evidences of Germany's progress in shipping, and, by means of a process which it would be flattery to call reasoning, they conclude that this progress is due to enormous subsidies paid by Germany. There is only one sufficient answer to this assertion. It is absolutely false. First, as we have seen, Germany does not pay large subsidies. Though the contracts are not let at public auction, the government takes good care of its end of the bargain, and requires good service for moderate pay. In relation to miles traveled the German service is cheaper than the English, though in relation to the quantity of mails it is considerably dearer. Secondly, no possible connection between the postal subventions and the growth of the marine can be established. The North German Lloyd and the Hamburg-Amerika Line owe their great success to the emigrant movement to the United States. It is scarcely necessary to mention the great industrial revolution in Germany since 1880 to prove that the growth of German shipping is entirely independent of official tinkering. As to the indirect bounties, their influence can hardly account for any considerable part of the rapid development of German shipping and commerce. As was shown above, the *intent* of the government was undoubtedly to aid shipping and encourage trade. If this motherly hovering has produced good results, it has been because of its inadequacy.

ITALY

BOUNTIES ON CONSTRUCTION AND NAVIGATION

Early Bounty Legislation.—"Italian shipping has received the fostering care of government in times past. Especially was this the case in the Neapolitan kingdom, where in 1816, King Ferdinand issued his famous 'tratte' granting a premium of ten dollars the ton for all ships built within the kingdom, and a diminution of ten per cent. of the taxes of entry and exit on all merchandise under the Neapolitan flag. With this encouragement, trade increased, ships multiplied, the construction was improved and the Neapolitan merchant service extended itself to the Black Sea and the Sea of Azof to load grain for all ports of Europe and carry on a general exchange of merchandise. In 1824, the bounty was lowered to five dollars the ton, but the impetus already given to ship-building and the shipping trade had imparted to these industries a self-sustaining power. In 1860, the protection was further restricted, but still the number of Neapolitan ships was augmented."¹

The above quotation is given as an example of the better class of literature produced on this subject. No evidence is submitted in support of the assertion that Neapolitan shipping prospered because of the bounty and the ten per cent. discount. At that time (1816) all maritime countries had similar discriminating duties, so the reduction may be regarded as merely an equalization of the higher duties which Neapolitan goods had to pay in other countries when exported in Neapolitan ships. The neighboring kingdom of Sardinia enjoyed

¹ U. S. consular reports, 1882, No. 24, pp. 491, 492.

an equal prosperity in commerce and shipping without bounties. We are thus compelled to seek for more general causes than bounty laws, to account for this expansion in Italian trade. We do not need to seek far. Italy had then, as now, a redundant population supplying plenty of cheap labor for building and running the wooden sailing ships of that date. At the same time wood was plentiful and tolerably cheap. Even the most superficial investigation must convince an impartial observer that the bounties did *not* create the Neapolitan merchant fleet, and that the merchant fleet did not make the people prosperous. The mass of the population was then, as now, poor, ignorant, and degraded. The Italian kingdoms competed successfully with England and America as sea carriers by reason of cheap materials and cheap labor.

When the United Kingdom of Italy was formed, the protective policy was continued though less liberally. In 1866 a law was passed granting a premium on construction of wooden ships. Subsequent laws exempted ship-building materials from duties. But the sum paid in bounties was comparatively small. The merchant marine continued to prosper for a time because shipping was an industry well suited to Italy at that time, before iron steamships were much used.

The Italian fleet reached its greatest extent and activity in 1870, when the international movement of merchandise under the Italian flag amounted to 8,875,769 tons. In 1879 the amount had shrunk to 6,692,081 tons,—a diminution of nearly twenty-five per cent. in nine years. During the same period ship-building in Italy also declined greatly. "It was conclusively shown before the commission [of 1881] that the several laws,

beginning with that of July, 1866, granting exemptions from import duties of materials used in the construction, repair, or enlargement of ships were wholly inadequate to stimulate ship-building or arrest the diminution of ships."¹ The steam tonnage increased from 1865 to 1881 by 56,395 tons, but the sail tonnage decreased by nearly 100,000 tons from 1870 to 1881. The decline in wooden construction is shown by the annual premiums awarded to builders of wooden ships, by the law of July 14, 1866 and the royal decree of May 27, 1878. The amounts were as follows: 1870, \$35,075; 1871, \$28,898; 1872, \$24,958; 1873, \$20,121; 1874, \$22,888; 1875, \$36,452; 1876, \$28,488; 1877, \$17,650; 1878, \$13,638; 1879, \$6806; 1880, \$6832.

Law of 1886.—On the recommendation of the parliamentary commission of 1881, a bill was framed and finally enacted December 6, 1886, giving bounties on construction as follows: (1) On steam or sail ships, built of iron or steel, 60 lire (\$11.58) per gross ton; (2) On sailing ships of wood, 15 lire (\$2.895) per gross ton; (3) On floating material² of iron or steel, 30 lire (\$5.79) per gross ton; (4) On construction and repair of engines, 10 lire (\$1.93) per horse power; and (5) Of boilers, 6 lire (\$1.158) per quintal (220.46 lbs.). The bounties on ships, engines, and boilers were to be increased ten to twenty per cent for vessels convertible into war cruisers, having a speed of 14 knots and sufficient coal-carrying capacity to steam 4000 miles at 10 knots per hour. The bounties were made to apply to vessels purchased abroad as well as to those constructed in Italy. Article 5, sus-

¹ U. S. consular reports, 1882, No. 24, p. 492.

² Floating material (*galleggiamento*) includes all those vessels and structures, such as docks, etc., not provided with a certificate of nationality. Vessels on rivers and lakes and some navigating on the sea-board come under this head.

pended during the term of the act (ten years) the former laws granting free entry to ship-building materials, as well as the premiums on naval construction established in 1866. The amounts paid out under this law were as follows: In 1886 for construction 110,846.12 lire (\$21,393.30), for repairs 150,876.15 lire (\$29,119.10). In 1887 for construction, 114,692.48 lire (\$22,135.65); for repairs, 180,266.62 lire (\$34,791.46).

The tariff law of July 14, 1887, increased the customs duties on materials for ship-building, in consequence of which a royal decree was issued March 22, 1888, granting additional bounties on construction and repair, making the total bounties as follows: per gross ton of iron or steel hulls, 77 lire (\$14.861); of wooden hulls, 17.50 lire (\$3.378); of floating material, 37.50 lire (\$7.238); per horse power of engines, 12.50 lire (\$2.412); per quintal of boilers, 9.50 lire (\$1.834). Besides provision was made to pay 50 lire (\$9.65) per gross ton for the construction of war vessels, 8.50 lire (\$1.641) per horse power for engines, and 9.50 lire (\$1.834) per quintal for boilers to be used on war ships. Other apparatus to be used on board war ships was granted 11 lire (\$2.123) per quintal. Article 8 continued the bounty of one lira per ton on coal imported in Italian vessels from beyond the straits of Gibraltar, provided that such cargoes of coal amount to at least three-fifths of the vessel's carrying capacity.

A navigation bounty to Italian vessels was given at the rate of 0.65 lire (12½ cents) per gross ton for every 1000 sea miles run beyond the Suez canal or the Straits of Gibraltar to or from ports outside of Europe. The same bounty was given to Italian vessels sailing between one continent (with its adjacent islands) and another continent (with its adjacent islands) outside

the Mediterranean Sea. Sailing vessels must not be more than fifteen years old and steamers not more than ten. Pleasure craft and mail-route steamers were made ineligible to receive the navigation bounties. Distance sailed was to be reckoned by the shortest sea route from the last port where commercial transactions were made, to the first port of entry. Steamers receiving bounty could not be sold or chartered to foreign governments or companies without the consent of the Italian government.

TABLE NO. XVII

	No. of ship- yards	All Vessels		Value in 1,000,- 000 lire	Sail No.	Iron or steel vessels ¹		
		No. of vessels	Gross tons			Gross tons	No.	Gross tons
1879----	50	269	21,213	5				
1880----	48	263	14,526	4				
1881----	41	228	11,356	3				
1882----	45	233	17,809	4	-	----	6	2,597
1883----	41	154	15,080	3	2	387	2	122
1884----	38	154	15,781	5	6	955	5	2,571
1885----	39	197	9,945	2	1	160	6	719
1886----	43	193	11,421	3	2	252	6	114
1887----	38	167	5,191	1	-	----	7	278
1888----	37	277	5,960	2	3	458	15	1,723
1889----	39	354	11,615	4	4	3,739	12	981
1890----	51	357	26,774	8	16	12,368	7	514
1891----	47	353	29,784	10	15	10,584	12	7,113
1892----	42	258	17,599	5	5	3,801	8	3,428
Totals----		3,477	214,054	66	54	32,452	86	20,157
1879-85-		1,498	105,710	29	9	1,502	19	6,006
1886-92-		1,979	108,344	36	45	30,950	67	14,151
Increase--		481	2,634	6	36	29,448	48	8,145

¹ No returns before 1882.

Table No. XVII gives the construction in Italian yards for the seven years preceding and the seven years following the subsidy act of 1886, with a comparison of results in the two seven year periods. Details of iron and steel construction are given in the last four columns.

It will be noticed that the increase in the number of vessels built since 1886 was considerable, but the increase in tonnage was slight. This was due to the construction of so many small iron and steel craft for the coasting trade. Very few large ships were built. In return for an expenditure of 6,396,419 lire (\$1,234,508.87) in construction bounties, the value of Italian construction increased only 6,472,954 lire (\$1,249,280.12) in the period 1886-92 compared with the period 1879-85. In fairness to the system, however, it must be said that the bounties were no more than equivalent to the customs rebates given before 1886, so that ship-building enjoyed no greater degree of protection under the direct bounty system than under the indirect bounties existing since 1878. Table No. XVIII gives a summary of the bounties paid under this law from 1886 to 1892 inclusive. Of the 19,111,546 lire (\$3,689,493.38) paid in navigation bounties, 6,177,690 lire (\$1,192,294.17) went to steam vessels and 12,938,856 lire (\$2,497,199.21) to sail vessels. The import bounty on coal failed to bring any considerable quantities of that indispensable commodity, and the quantity imported dwindled from year to year. In 1886 were imported 138,177.31 tons, while in 1892 only 92,781.22 tons were imported. The total construction and navigation bounties paid in 1891 amounted to 5,416,042 lire (\$1,045,296.11); in 1892 they were only 3,655,956 lire (\$705,599.51); and in 1893 only 2,362,140 lire (\$455,993.02),—which shows a joyful dwindling away of the burden on the treasury, but does not speak well for the effectiveness of the bounty to increase shipping. Table No. XIX gives statistics of the navigation bounties. Comment is superfluous.

TABLE XVIII

Construction	Rates of construction bounties		Total sums paid	(In 1000 liras) Sums paid as rebates of customs	Net bounties
<i>Merchant Construction</i>					
Wooden hulls,	15	per gross ton	189	94	94
	17.5	“ “	870	497	373
Iron and steel hulls	60	“ “	86	46	40
	77	“ “	3,223	2051	1,172
Floating material	30	“ “	23	23	----
	37.5	“ “	88	88	----
Engines	10	per horse power	27	8	18
	12.5	“ “	385	176	209
Boilers	6	per quintal	46	14	31
	9.5	“ “	289	165	123
Repairs, domestic	6	“ “	49	15	33
boilers	9.5	“ “	157	90	67
Repairs, domestic	11	“ “	184	----	184
engines					
<i>Naval Construction.</i>					
Iron and steel vessels	50	per gross ton	256	----	256
Small craft	37.5	“ “	109	----	109
Engines	8.5	per horse power	175	----	175
Boilers	9.5	per quintal	152	----	152
Auxilliaries	11	“ “	80	----	80
Totals			6,396	3272	3,123
Navigation bounties			19,111	----	19,111
Coal import bounties			925	----	925
Grand total all “			26,433	3272	23,160

Compiled from information given in U. S. consular reports, Vol. 44. See Italy.

Law of 1896.—On July 23, 1896, the Italian Parliament enacted for a further period of ten years, a new subsidy law which was closely modeled after the law of 1886. The construction bounties were left as before, except that ships of war built for foreign countries were barred from receiving subsidy. An important change was the re-enactment of the customs rebates on materials. The navigation bounties were raised from 0.65 lira (12½ cents) to 0.80 lira (15.44 cents) per gross ton for every 1000 sea miles sailed by Italian built vessels beyond the Suez Canal or the Straits of Gibraltar. The rate was

to be diminished by 10 centimes (1.93 cents) for steamers and 15 centimes (2.895 cents) for sailers every three years.

TABLE XIX

Years.	Kind of vessels	No. of ships	Tons of merchandise carried (in thousands)	Passengers carried	Miles traversed (in thousands)	Bounties (in 1000 liras)	Bounties (in 1000 dollars)
1886	Steam--	24	180	54,382	691	883	170
	Sail----	493	803	40	5706	2495	481
1887	Steam--	32	242	67,341	901	1123	216
	Sail----	442	730	23	5466	2407	464
1888	Steam--	25	202	83,480	940	1066	205
	Sail----	361	617	-----	4962	2263	436
1891	Steam--	---	---	-----	-----	735	141
	Sail----	---	---	-----	-----	1319	254
1892	Steam--	---	---	-----	-----	692	133
	Sail----	---	h	-----	-----	1215	234
1893	Steam--	20	94	39,807	480	556	107
	Sail----	137	283	-----	1942	1121	216

During the year 1897, the Italian government distributed 2,044,339 lire (\$394,557) in navigation bounties, 124,973.97 lire (\$20,260) in construction bounties, and refunded in drawbacks for duties on imported materials of construction 448,729.76 lire (\$86,605). On the other hand, the government received from the commercial marine in harbor dues and taxes 6,915,301.80 lire (\$1,334,653),—an excess of taxes on shipping over bounties to shipping of 4,297,259.07 lire (\$833,231). These taxes do not include taxes on ship-building plants. The palm must undoubtedly be awarded to the Italian bounty system for all round imbecility and utter senselessness. The whole theory of bounties, as of all forms of protection, rests upon the possibility of increasing the national income by building up one class of industries at the expense of another class. Italy will build up her merchant marine at its own expense by taxing it heavily, afterwards returning somewhat less than a quarter of the amount collected. The system then in

its entirety is not really a bounty system at all, but a tax system. It seems incredible that a country should seriously attempt to tax itself rich in this absurd manner, but the disappointment expressed by the Italian law-givers at the failure of their scheme compels us to believe that the measure was not intended as a joke. It does not require great financial acumen to discern that the same benefit would have been conferred upon shipping at much less cost to the nation had the taxes been reduced one-fourth. Under present natural economic conditions, Italy should be one of the leading ship-owning nations, because she has a large surplus population, accustomed to the sea and expert as mariners. Because of a lack of capital and the heavy taxation on shipping, the merchant marine does not prosper as it should. On the other hand, Italy can never become important as a ship-building country, because she has neither coal nor iron in any considerable quantities. But the government will build up this industry in spite of Nature's interdict, and since the law of 1896, according to the *Annuario Statistico Italiano*, there has been a very considerable increase in construction. If the whole object of the construction bounties is to stimulate the building of ships, especially steel ships, in Italian yards, then it must be granted that they have been in a measure successful since 1896. But it must not be supposed that this activity indicates a permanent and self-perpetuating prosperity in the industry. The statistics given below include naval construction, which accounts in large part for the increase in steam tonnage constructed.

The American consul-general at Rome in his report to the Department of State in 1900 says:¹ "In view of

¹Special consular reports, vol. 18 (1900), p. 72.

the efforts of the government to encourage Italian shipping, the long sea-board, and the necessity of shipping to the economic life of the country, the results are certainly far from satisfactory ; and it is particularly remarkable that the tonnage of Italian steamers remains generally so low, while in other countries the tendency has been toward the employment of large ships, as more economical in working. It is sometimes asserted that taxation on the shipping industry is so heavy as to kill small enterprise, which, if unfettered, might grow and flourish ; but, on the other hand, the government can point to the large navigation subsidies, which for the past year are estimated to exceed 3,000,000 lire (\$579,000). A further, and perhaps more correct explanation of the unsatisfactory situation is, that the bulk of the subsidies are paid to two or three companies, which by constant favor have established a sort of shipping monopoly and successfully use their influence to crush all possible rivals". Between the government, on the one hand, and the shipping monopoly on the other, it is not a subject for surprise that the Italian marine does not flourish. Construction in Italian yards in recent years is as follows :

TABLE XX

(In 1000 tons)

	1896	1897	1898	1899	1900
Steam tonnage.....	2	8	14	29	47
Total tonnage	6	11	19	33	54

Decree of 1900.—On November 16, 1900, a royal decree was issued modifying the law of 1896 in some particulars. A bounty of 45 lire (\$8.685) per gross ton was given for iron or steel sailing ships and for steamers with a speed below 12 knots ; 50 lire (\$9.65) per gross ton for steamers with a speed of 12 to 15 knots ; 55 lire

(\$10.615) per gross ton for steamers above 15 knots; and 13 lire (\$2.509) per ton net for wooden hulls. No bounty is allowed on vessels built for foreigners in Italian yards. (!) The customs drawbacks were abrogated and in place of them a bounty of 5 lire (\$0.965) per quintal (220.46 lbs.) of metal used in repairs was granted.

The navigation bounties per gross ton per 1000 miles were made as follows: steamers, 40 centimes (7.72 cents) up to the 15th year after construction; sailing vessels, 20 centimes (3.86 cents) up to the 21st year after construction. The yearly distances run for which bounties are to be paid may not exceed 32,000 miles for a steamer below 12 knots, 40,000 miles for a steamer of 12 to 15 knots; 50,000 miles for a steamer above 15 knots, and 10,000 for a sailing vessel. All Italian ships are eligible to these bounties. Foreign built vessels are excluded.

The building and navigation bounties for steam vessels shall not be granted for more than 20,000 tons gross before June 30, 1902, a second 20,000 tons for 1902-3, and 40,000 tons for each successive year until the law of July 23, 1896 shall expire, thus making a maximum total of 200,000 gross tons of new tonnage on which it is possible to collect the bounties to steamers. The maximum of expenditure for all construction and navigation allowances is limited to 10,000,000 lire (\$1,930,000) a year. So far as could be learned, the new provisions have been no more successful in reviving ship-building and navigation than the earlier attempts.

MAIL SUBVENTIONS

The Italian steamship companies, *Florio* and *Rubattino*, were consolidated by a convention with the

Italian government, June 15, 1877, and have received an annual mail subvention since that date. Since 1889 the subvention has been 9,582,344 lire (\$1,849,392.39). The convention with the government fixes the tariff per league for passengers at 93 to 66 centimes for first class, 62 to 44 centimes for second class, and 31 to 22 centimes for third class, exclusive of food. For merchandise the freights fixed vary from 1.50 to 10 lire per quintal, according to class, distance carried, and the amount of shipment. The speed required of the vessels varies from eight knots up to ten knots and the capacity from 200 tons to 1300 tons. Fines of 50 to 100 lire for unjustifiable delays are established. In addition to carrying the mails the company is obliged to carry at half price, civil and military employees and prisoners.

The specific lines, services, and subventions are as follows: (1) Sardinian and Tuscan Archipelago lines, for navigating 114,732 leagues, 1,978,616 lire (\$381,872.89); (2) Sicilian lines, 138,880 leagues, 2,496,880 lire (\$481,897.84); (3) Egyptian, East Indian, Chinese, Japanese, Batavian and Red Sea lines, 238,818 leagues, 3,063,488 lire (\$591,253.18); (4) Levant lines, 95,160 leagues, 1,998,360 lire (\$385,683.48); (5) Lines of Naples and Gaeta bays, 8,552 leagues, 45,000 lire (\$8,685); total for 596,142 leagues, 9,582,344 lire (\$1,849,392.39). The rate of subsidy for the first system is 18 lire (\$3.474) per league except for one short line of 162 leagues; for the second system 19 lire (\$3.667) per league; for the third, Genoa to Singapore, 32 lire (\$6.176), and Tunis, Tripoli, Malta, etc., 14 lire (\$2.702) per league; for the fourth (Levant) system, 21 lire (\$4.053) per league. The lines of the third system between Genoa, Naples and Alexandria, Suez and Aden, Genoa and Batavia, Genoa and Bombay are paid a lump

sum without reference to mileage, as are also the lines of the fifth system. All these lines are owned by the Italian General Navigation Company (*Società Florio e Rubattino*). Previous to 1896 this powerful company has owned more than one-half of the steam tonnage of Italy, and practically all of the larger steamers. In 1889 its fleet numbered 109 steamers of 103,061 tons; in 1899, the number was 99 with 109,929 tons, and in 1900 it had 100 steamers of 119,224 tons, showing that the postal subventions do not accelerate growth any better than do the bounties. The tendency of the mail payments to strengthen this already too influential company, has led many to advocate doing away with the contract mail service altogether and substitute therefor a government packet-boat service. The experience of England with state owned and operated packet-boats demonstrated the inefficiency and extravagance of this system. The mail steamers must be merchant steamers as well, if the costs of service are not to be enormously increased, and it is not yet time for any state to take over its transport lines of the sea, and enter into competition with the private enterprises of other nations. The contract system is by far the best system yet devised, but it must be carefully administered, if the government is to escape exploitation.

Many Italians condemn the mail subventions in the most unmeasured terms. Mr. E. Girretti¹ calls them "scandalous spoliation of the balance of Italians in favor of the navigation company." This is putting it pretty strong, for the rates per mile are not so high as those paid by several other countries. On the other hand, however, the requirements are by no means so ex-

¹ Cf. Girretti, Edoardo, J premio alla marina mercantile, *Giornale degli Economisti*, Marzo 1900.

acting, either as to size and speed of vessels, or the amount and importance of the services rendered. In view of these facts, it seems probable that these subventions are partly in the nature of concealed bounties. It is also possible that Italian citizens own more steamers because of the mail subsidies, but it is not at all evident that Italy is benefited in the least either financially or commercially by this fact,—if it be a fact.

Table No. XXI gives the statistics, taken from Lloyds, of the Italian merchant marine since 1870. Steam tonnage has increased steadily, while the sail tonnage has increased since 1896. The increased tonnage consists for the most part of small craft so that the carrying capacity of the fleet is not so great as would appear.

TABLE XXI
(Amounts in 1000 tons)

Years	Sail vessels		Steam vessels		Total vessels	
	No.	Tonnage	No	Tonnage	No.	Tonnage
1870----		980		32		1012
1875----	10,828	987	141	57	10,969	1044
1880----	7,822	922	158	77	7,980	999
1882----	7,528	885	192	104	7,720	990
1884----	7,072	848	215	122	7,287	971
1885----	7,111	828	225	124	7,336	953
1886----	6,992	801	237	144	7,229	945
1888----	6,544	677	266	175	6,810	853
1889----	6,442	642	279	182	6,721	824
1890----	6,442	634	290	186	6,732	820
1891----	6,308	609	316	201	6,624	811
1893----	6,341	588	327	208	6,668	796
1894----	6,231	571	328	207	6,559	779
1895----	6,166	555	345	220	6,511	776
1896----	----	527	---	237	----	765
1897----	5,872	526	366	259	6,238	786
1899----	5,665	559	409	314	6,074	873
1900----	5,511	568	446	376	5,957	945

CONCLUSION

As indicated above, the healthy growth of the Italian merchant marine is hindered by the natural disadvan-

tages, as well as the burdensome taxes in support of naval and military establishments out of all proportion to the resources and importance of the country. The Act of July 14, 1864, imposed a tax of 13.2 per cent. upon three-fourths of every income derived from industries and commerce. The ship-owners of Naples, Genoa and elsewhere refused to pay the tax on the plea that merchant ships were not a part of the territory of the state, and that the law in question made no allusion to vessels, which by other statutes were subject to consular, anchorage, and sanitary taxes, and that the application of the income tax on *ricchezza mobile* to them would be double taxation. The resulting litigation was settled by the court of Cassation at Rome in a decision adverse to the claims of the ship-owners. The methods of enforcing the law are very unequal, so that complaints of its injustice are frequent and bitter. Some writers favor exempting shipping from all taxation, and this would certainly be a cheaper and better way of giving that industry an advantage in comparison with other industries in Italy. For reasons already indicated, it is likely that if the heavy burdens were taken from Italian shipping, it would grow by its own strength, without bounties. Whether it be desirable to favor shipping at the expense of other industries, however, is very doubtful. It seems most probable that an all round diminution of taxes on all industries would be the greatest benefit the parliament could bestow.

It was shown before the commission of 1881 that the consular fees paid on behalf of Italian ships are much higher than those of other European countries. A steamer of 1800 tons, sailing between Genoa and South America and stopping at Malaga, Pernambuco, Montevideo, Bahia, Lisbon, and Marseilles, paid a consular

fee of \$72 at each clearance, a total for the voyage of \$504. At this rate this vessel would pay \$3024 within the year. It was repeatedly asserted before this commission that the obstinacy of the Italian ship-owners in clinging to wooden sailing ships, instead of adopting the more efficient steamship, was responsible for the decline in the Italian marine. The scarcity of coal and iron explains this "obstinacy." Statistics show, moreover, that Italian owners before 1896 were discarding sailing vessels for steamships as rapidly as was profitable. All the coal used in Italy must be imported. Elba has tolerably rich veins of iron ore, but it is cheaper to import pig-iron than to import coal and coke for smelting the native ores. Most of the angle-iron and ship plates used in steel construction in Italy are manufactured at home it is true, but out of imported pig-iron. The cost of these materials is much greater than in England or Germany. In conclusion it must be said that there is not the slightest possibility of ever establishing steel ship-building on an independent basis in Italy. The overworked "infant industry" argument for protection fails utterly of application in this case. Those who wish to defend the protection of Italian ship-building must do so on nationalistic grounds. And in this latter respect regard must be taken for the resources of the nation. In navigation the Italian marine needs freedom, not protection. The Italians possess considerable maritime enterprise. The United States consuls and other authorities generally affirm that the Italian ships are manned at less expense than those of any other European country. Reasonable taxation would probably do what the present bounties have failed to do,—rehabilitate the Italian merchant marine.

AUSTRO-HUNGARY

AUSTRIA

Introductory.—The first legal enactment by the Austro-Hungarian monarchy to encourage shipping was the law of June 19, 1890, exempting all iron and steel steamers and sailing ships from trading and income taxes while engaged in ocean voyages. As the Austrian merchant marine continued to decline, it was thought advisable to try stronger measures of encouragement, so the postal subventions were established in 1891, and the general subsidy law passed two years later. As these are the only subsidy acts passed, they will be considered chronologically.

Postal Subventions.—By the Law of July 25, 1891, the Austro-Hungarian government fixed the rate of subsidy for mail-contract steamships according to distance traversed, speed, and the importance of the line to the postal service. For express lines (speed above 10 knots), the maximum is 70 kreutzers (28 cents) per nautical mile; for slower lines the maximum is 50 kreutzers (20 cents) per mile. The usual services are required as to the mails. In addition it is provided that the postal authorities may fix or change the itinerary of the mail steamship as the postal service may require, but the steamship company can not make such changes without the consent of the postal authorities. The company undertaking a postal contract must deposit caution money equal to the amount of one year's subvention. The above are some of the general provisions of the law, which apply to all vessels under mail contract. The peculiar features of the law are contained in articles 2 and following, which lay down the provisions of contract between the government and the

Austro-Hungarian Lloyd Company. The bounties are fixed as follows :

I. For the Adriatic and Mediterranean service ; (1) for a speed of at least $11\frac{1}{2}$ knots, 3 florins 55 kreutzer (\$1.438) per mile ; (2) for a speed of at least 10 knots, 2 fl. 40 kr. (\$0.972) per mile ; (3) for a speed of at least 9 knots, 1 fl. 80 kr. (\$0.726) per mile.

II. For ocean navigation : (1) for a speed of at least 11 knots, 2 fl. 80 kr. (\$1.132) per mile ; (2) for voyages between Trieste and Santos, 2 fl. (\$0.812) per mile ; (3) for other voyages, 1 fl. 70 kr. (\$0.686)¹ per mile.

The total amount of mileage bounty payable in one year to the Austro-Hungarian Lloyd Company was limited to 2,910,000 fl. (\$1,181,460). The government agreed to pay the Suez Canal tolls in addition, and from 1890 to 1894 exempted all iron and steel steamers and sailing vessels from all trading and income taxes.

In order to encourage the Lloyd Company to build larger and more powerful ships, the government agreed to advance 1,500,000 fl. (\$609,000) in three equal payments on September 1, 1891, January 2, 1892, and January 2, 1893 ; the sum to be repaid by the company in five equal yearly payments of 300,000 fl. each, beginning January 2, 1902. The other more important regulations in the contract are : article (3) which forbids the company from altering its freight rates without the consent of the ministry of commerce ; article (4) which binds the company to use every year at least 20,000 tons of coal derived from the Austrian mines and delivered at Trieste ; article (5) which exempts the vessels

¹ For convenience the value of the florin is taken throughout at its present value of 2 kroner or about 40.6 cents. In fact its value fluctuated greatly until finally fixed by the adoption of the gold standard in 1892. In 1890 it was worth about 42 cents, in 1891, 38.1 cents, in 1892, 34.1 cents.

of the company from all consular fees, the same as "vessels of the Imperial navy"; article (7) which puts the company's vessels at the disposal of the naval and military authorities in case of war; article (8) which provides that the administrative committee of the company is to consist of eight members, of which the president shall be appointed by the emperor, and two other members by the ministry of commerce; and article (9) which requires that all officials of the company must be Austrian subjects,—naval officers, either active or retired to be given preference.

Trade and Navigation Bounties.—A general subsidy law was enacted December 27, 1893 and went into effect January 1, 1894 for a period of ten years. A large percentage of steam tonnage, most of which was owned by the Austrian Lloyd Steamship Company, was already receiving mail subventions, so called. The law of 1893 does not affect vessels under mail contract. To other Austrian vessels it grants either a trade bounty or a navigation bounty. The trade bounty is granted to all vessels making long voyages if at least two-thirds is owned by Austrian subjects and the vessel is not more than fifteen years old and is classed A1, or A2 in the Austro-Hungarian *Veritas*. The bounty is fixed for the first year after launching, at the following rates per ton: (1) for steamers of iron or steel, 6 florins (\$2.43); for sailing vessels of iron or steel, 4.50 fl. (\$1.83); (3) for wooden or composite sailing ships, 3 fl. (\$1.22). The rate is reduced five per cent every year after the first until the end of the fifteenth year when all payments cease. The trade bounty is increased ten per cent for vessels of iron or steel constructed after January 1, 1894 in domestic yards, and if at least one-half

of the material used is of domestic origin, the subsidy is increased twenty-five per cent. All vessels more than fifteen years old, entered July 1, 1893 on the register for foreign trade or long coastwise voyages, shall receive for five years from January 1, 1894, an amortization payment of one florin (\$.0406) *per annum* per net ton, if it be classed at least B2.

Vessels engaged in short coastwise voyages are given a navigation bounty of 5 kreutzers (2 cents) per net ton of capacity for every 100 nautical miles sailed.

Vessels lying idle for more than six months shall not receive subsidy or amortization fee during that time. The exemption from the production and income taxes was extended for a term of five years after January 1, 1894.

Vessels under government contract, and vessels belonging to an industrial establishment and used by them exclusively to transport material for their own consumption were made ineligible to receive subsidies.

The objects sought in enacting this law are set forth in the report of the special committee appointed by the Imperial Parliament in 1893. The committee ascribed the continued decline of the Austrian marine to two causes. First, there was no increase in demand for freights at Austrian ports, and second, foreign competition had forced many Austrian ship-owners out of business and was crowding the rest to the wall. They acknowledged the inability of Austrian shipping to compete with that of other countries, and for this reason and the fact that the people along the coast are poor, the committee recommended the giving of bounties. "What is wanted is to put a stop to the decline of our merchant fleet, to allow it to cope with foreign compe-

tition, and to secure for the inhabitants of our coast, wanted employment and profits in maritime pursuits."¹

Since the enactment of the law of 1893, no marked change in the condition of the marine is manifest, though the decline in sail tonnage is checked and the increase in steam tonnage is somewhat accelerated. Table No. XXII gives statistics compiled from the "*Oesterreichisches Statistisches Handbuch*" showing progress of the marine since 1885. Total tonnage declined constantly until 1895, but steam tonnage constantly increased so that the carrying capacity of the

TABLE XXII

(Amounts in 1000 tons)									
Austrian merchant marine			Austrian shipping in Austrian harbors						
Sail		Steam		Total	Entering	Per	Clearing	Per	
No.	Ton- nage	No.	Ton- nage	Ton- nage	Ton- nage	cent	Ton- nage	cent	
1885	8,768	165	120	77	242	6,041	86.47	6,022	86.35
1890	9,778	108	135	87	195	7,751	88.35	7,739	88.35
1893	10,887	90	144	97	187	8,557	89.91	8,548	89.85
1894	11,140	84	139	95	180	8,479	89.32	8,461	86.99
1896					196				
1898	12,134	62	174	146	208	11,592	91.41	11,591	91.37
1899	11,928	58	183	161	219	12,025	91.37	12,014	91.38
1900	12,440	53	199	190	244	11,898	91.05	11,898	91.02
1901	12,713	53	211	226	280	12,281	91.55	12,281	91.50

fleet increased instead of diminished. Since 1894 the steam tonnage has increased so rapidly as to more than counterbalance the continued decline in sailing tonnage.

This expansion is no doubt due in part, at least, to the law of 1893. The remarkably large per cent. of tonnage entering and clearing from Austrian harbors is not a correct indication of the condition of the Austrian mercantile fleet, for the figures include the coasting trade from which foreign vessels are excluded. A better indication of the real strength and activity of the marine is given by Table No. XXIII, compiled from information given in Commercial No. 4 (1901), British parlia-

¹ See U. S. special consular reports, Vol. XVIII, p. 8.

TABLE XXIII

Years	Austrian shipping engaged in long voyages ¹			Value of merchandise borne by Austrian ships	
	No. of vessels	Tonnage (1000 tons)	Value (in 1000 pounds)	(in 1000 pounds)	
				Imports	Exports
1890-----	1748	176	2500	19,917	17,678
1891-----	1723	173	3416	16,882	17,426
1892-----	1717	167	3416	18,000	15,750
1893-----	1720	166	3500	17,246	17,739
1894-----	1674	157	3416	16,910	15,716
1895-----	1693	165	3500	19,561	16,718
1896-----	1708	174	3900	18,596	16,395
1897-----	1705	189	4000	19,515	16,498
1898-----	1659	185	4000		
1899-----		196	4300		

¹ Both over-sea and long coasting voyages (foreign) are included.

mentary papers. This table gives statistics of the sea-going tonnage and sea-borne trade of Austria. It is to be noted that the total number of vessels engaged has steadily diminished, though the tonnage and the value have increased, the latter by a large amount. This all points to a strengthening of the marine. The last two columns, however, tell a different story. They show that the value of merchandise carried in Austrian ships has diminished. The difference between an *expensive* marine and a *valuable* marine is generally overlooked. The statistics show that Austria possesses the former kind, for while the amount of capital invested in ships was greatly increased, the value of the work done diminished. This decrease of service was not only absolute but relative as well for, from the year 1894 to 1899, the value of Austrian imports by sea increased from 271 million kronen to 312 million kronen, while the exports by sea increased from 192 million kronen to 259 million kronen. Even these figures do not express the full relative decline of the Austrian merchant marine, for they include the returns for the coasting trade, which is carried on mostly by very small vessels, unfit for long voyages. The actual proportion of the Austrian shipping

engaged in over-sea commerce is much smaller than indicated by the figures given and is practically confined to ships of the Austrian Lloyd Steamship Company.¹ Table No. XXIV gives the statistics of the Austrian Lloyd Company as given in the "*Oesterreichisches Statistisches Handbuch*" from year to year.

TABLE XXIV

	1890	1891	1892	1893	1894	1895
No. of ships	75	74	74	76	72	75
Gross tonnage	123,539	122,321	129,267	138,583	135,109	145,443
Perct. of total sea-going tonnage }	70.1	70.3	77.	83.4	85.5	87.8
Miles sailed (nautical) ¹ }					1,922	1,943
No. of Passengers	286,373	293,918	250,061	260,129	261,344	276,034
Freight, meter centners ² }	6.22	5.74	5.35	6.65	7.25	7.56
Freight, value (gulden) ³ }	81.41	82.16	67.56	80.15	125.30	131.76
Gross receipts (gulden) ³ }	10.82	10.76	11.80	13.18	26.57	26.34
Net do. receipts (gulden) ³ }	.99	.54	1.92	2.29	4.32	1.36
Dividends, per cent.	0	0	1	4	4	4

	1896	1897	1898	1899	1900	1901
No. of ships	74	70	64	65	67	63
Gross tonnage	148,382	150,240	143,392	154,219	163,887	122,171
Perct. of total sea-going tonnage }	84.8	79.1	77.1	78.3	----	----
Miles sailed (nautical) ² }	1980	1971	1988	2015	2220	2192
No. of passengers	260,565	275,088	274,397	268,420	281,831	281,909
Freight, meter centners ³ }	7.71	8.84	9.48	9.68	10.47	11.07
Freight, value (gulden) ⁴ }	117.39	166.33	121.25	117.46	117.14	136.10
Gross receipts (gulden) ⁴ }	26.12	27.57	29.96	30.73	37.58	39.94
Net receipts (gulden) ⁴ }	.50	.80	5.10	5.32	5.61	5.94
Dividends, per cent.	1.9	3.05	3.81	3.81	4.	4.

¹ Formerly the Austro-Hungarian Lloyd.

² In thousands of miles.

³ In millions of centners. A centner equals 220.46 lbs.

⁴ In million of gulden. The gulden now equals 40.6 cents.

By comparing the values of merchandise carried by the company's fleet with the values of merchandise carried in all ships of Austrian registry (see Table XXIII), it will be seen that the former carry much less than one-half. Yet the company receives more than ninety per cent. of the bounties paid to Austrian shipping. From 1889 to 1896, the Austrian Lloyd steadily increased its proportion of the amount of Austrian sea-going tonnage, because of the favors shown by the government. Since the law of 1893 has become effective, the small vessels engaged in the coasting trade have increased quite rapidly, while the Lloyd has actually decreased its tonnage. This does not mean, however, that the company's monopoly has been broken by the competition of these small coasting vessels. On the contrary, the Lloyd's monopoly of over-sea and long distance foreign trade is so firmly established that it can dictate freight tariffs, and arrange its service for its own convenience. Its service is reputed to be the worst and most irregular in existence on any "regular" steamship line. Very frequently customers sending orders for Austrian wares specify "not by the Austrian Lloyd." There is no incentive for improvement for four reasons: (1) The company is drawing the full subsidy allotted to it; (2) the governmental favors to the company prevent domestic competition; (3) for similar reasons foreign competition is ineffective; (4) the present tonnage is more than sufficient to carry Austria's whole seaborne trade. The most objectionable feature about this monopoly is its semi-public character. The original intention in placing the company's direction so immediately in touch with the government, was to give the latter control over the affairs

of the company. In practice, however, it works out that the company controls governmental affairs.

As mentioned above, the bounties go, for the most part, into the Austrian Lloyd's strong box. The remainder goes to the various companies controlling the coast and river trade. The ten and twenty-five per cent additions to the trade bounty for vessels built in domestic dock-yards and of domestic materials finally go for the most part to the single large ship-building concern in Austria, the *Stabilimento Technico Triestino*, located at Trieste. Table No. XXV gives the amounts and distribution of the various bounties, according to information given in the British report before mentioned (Commercial No. 4). The Austrian government gives out

TABLE XXV
(In 1000 pounds)

Years.	Contract sub- ventions to the Austrian Lloyd	Special sub- vention to the Lloyd for parcels lost	Subventions for postal service in the Adriatic	Trading and trip boun- ties paid under law of 1893	Total
1890-----	46	--	4	--	50
1891-----	46	--	7	--	53
1892-----	242	5	11	--	258
1893-----	242	5	12	--	259
1894-----	242	5	12	12	272
1895-----	242	5	12	12	272
1896-----	242	5	15	12	276
1897-----	242	5	16	27	291
1898-----	242	5	16	46	310
1899-----	242	5	17	54	318

no statistics from which may be learned the actual cost to the state of the various subsidies. The figures given in the British report are not exact, but they give a fair idea of the amounts. It is impossible to determine exactly the amount going to the Austrian Lloyd, but besides the contract and special subsidies, it receives a large share of the trade and the navigation bounties in be-

behalf of its vessels which are not directly under contract for the mail service. The rate per mile received by the company's fleet is not large. According to its reports for 1893, it received from the government that year 2,874,861.30 fl. for mail service and 475,989.84 fl. refund of Suez Canal tolls, making a total of 3,350,851.14 fl. (\$1,360,445.56) for traversing a distance of 1,600,000 miles, or about 85 cents a mile. This seems a very low rate, but it must not be forgotten that the company pays neither taxes on its ships and docks nor consular fees, and enjoys the privilege of borrowing large sums from the government without interest.

Conclusion.—The more enthusiastic advocates of non-interference on the part of governments assert that the protective measures taken by Austria have actually caused ship-building and navigation to decline more rapidly than before. With the figures before us it is difficult to make out that the decline has been more rapid since the laws of 1890, 1891 and 1893. The statistics show that the marine was decreasing before the bounties were given, while now it is increasing, and that by the addition of steam tonnage so that its carrying efficiency increases far more rapidly than is indicated by the mere additions to tonnage. In activity also as indicated by the entrances and clearances of Austrian shipping, there has been a constant increase (see Table XXII). It is only in the foreign trade where domestic shipping meets with foreign competition that Austria's mercantile fleet continues to decline. But this is exactly the vital point, and the decline here is so decided as to leave no doubt. The Austrian fleet engaged in this trade has increased greatly in market value and declined at the same time in commercial worth. Such a contradictory state of affairs indicates an abnormal

condition for its cause. Even if we did not know from the statistics that freight rates have continually climbed upwards, we would know deductively that such must be the case. Too much emphasis cannot be laid upon the difference between a *costly* mercantile fleet and a *valuable*, i.e., an income earning fleet. If we evaluate the Austrian fleet by capitalizing the actual income earned in business, aside from government favors and bounties, direct and indirect, the value would be a great deal less than that estimated by the officials. It is clear that Austrian shipping is unable to hold its own in competition with other countries, and the bounties have certainly not strengthened its competitive power.

The bounties on construction, i.e., the premiums of ten and twenty-five per cent offered for ships built in national yards and from domestic materials, have probably increased the output of the ship-building and allied industries somewhat. The greater part of the materials used is produced in Austria and the price of ship-plates is usually but little above the market price in England.

The greater part of Austrian tonnage is built abroad, chiefly in England, but there has been a considerable increase in the proportion of domestic construction since the law of 1893 was passed. This is a satisfaction to the Austrian people, a joy to the statistician, and a valuable asset to the *Stabilimento Technico Triestino*.

I have been unable to discover any convincing evidence to show that the national wealth has been increased by any of the bounties considered. It must be said that, by exempting shipping from taxation, the Austrians have shown a great deal more practical sense than is usually manifested by subsidy legislators. This is undoubtedly the cheapest form of subsidy and not at all difficult to administer, for industrial and commercial

corporations are not averse to exemption from taxation. At the same time, the government can soothe the discontented taxpayers with comparative statistics showing that Austria pays out less than Italy in subsidies, though in fact the exact opposite is emphatically true. The people must pay the bounties whether direct or indirect, and as yet the only return they have received is a comforting consciousness that the imperial flag floats over somewhat more monopoly owned tonnage than before. As all estimates of value are purely subjective, no doubt this satisfaction of a long felt want must be reckoned as a part of the national income,—a valuable national asset.

Since Austria has no foreign colonies and almost no sea-coast, the subsidies can hardly be defended on the grounds of imperial policy. In case of war the subsidized merchant marine would be the most vulnerable point of attack for a really maritime power. In the case of Austria, as of Italy, a false national pride has dictated the policy. It is expensive, it does not increase the marine to any considerable importance, because the amount expended must be limited by the burden of taxation the people are able or willing to bear, and it can not be shown in any case that a large merchant-marine depending on equally large subsidies to keep it afloat, even if attained, is a very desirable national acquisition.

HUNGARY

Bounties on navigation. Apart from the bounties granted by the imperial government of Austro-Hungary, the kingdom of Hungary gives bounties to Hungarian ships. The law No. 22 of June 30, 1893 provides for (1) a premium on purchase and (2) a subsidy based on mile-

age traversed. To receive bounty a vessel must be owned to the amount of at least two-thirds by Hungarian subjects. The premium on purchase is given on the basis of the net tonnage for a term of fifteen years from the date of launching. The premiums for the first year are : (1) for sailing vessels employed in long distance coasting trade, 6 kronen (\$1.218) per ton ; (2) for sailing vessels employed in deep sea trade, 9 kronen (\$1.827) per ton ; (3) for steamers in long distance coasting trade, 9 kronen per ton ; (4) for steamers in deep sea trade, 12 kronen (\$2.436) per ton. In each succeeding year after launching the premium is reduced seven per cent. of the premium for the preceding year.

The special subvention (mileage) granted to Hungarian vessels in proportion to the length of voyages made by them in the interests of national commerce, whether to or from Hungarian ports, is fixed at 5 hellers (1.01 cents) per ton (net) for every 100 nautical mile sailed. This bounty is also granted for fifteen years after the date of launching.

The premium on purchase can be claimed by vessels of iron or steel, built in accordance with the requirements of the Bureau *Veritas* or the English Lloyds and rated first class. The mileage subsidy is given only for voyages to places where no company in receipt of state subvention is obliged to maintain regular communications, and it is not to be given for petty coasting trade. Neither subsidy is to go to vessels owned by industrial establishments for the transport of materials necessary for their own industry. The total amount of the subsidies are to be fixed from year to year by the Hungarian Parliament, and, until further regulation, are not to exceed 200,000 kronen (\$40,600) *per annum*.

The vessels of Hungarian register are entitled to the

following additional benefits: (1) All arrears and interest accumulated under the head of dues, additional or ordinary, on the earnings of such vessels up to the end of 1892 shall be abolished. (2) Such sailing vessels as were registered at the end of 1892 are exempted from the tax on trade for six years. (3) Shipping companies that are not bound by contract with the state are exempted for ten years, (counting from the date of launch of the vessel in question) from the taxes and surtaxes upon the earnings of their steamers employed in deep sea trade or long distance coasting trade, provided that such steamers were registered before 1892. The earnings of all vessels acquired after January 1, 1893 and employed in these trades are exempted from all taxes, provided they are qualified to receive the state bounties above mentioned. (4) No taxes or dues are levied on the transfer of new vessels. Joint stock companies of navigation are exempted from the stamp tax and other duties on documents, contracts, and other papers.

For the benefit of sailing vessels unqualified to receive the premiums on purchase because of age, a subsidy of 2 kronen (40.6 cents) per ton (net) was given for five years after the date when the law went into effect. The vessels must be under twenty-five years old and classed at least B2. The conditions as to voyages were the same as for newer vessels. This law went into effect July 1, 1893 for ten years.

Bounties on Construction.—A law No. 34 of 1895 going into effect January 1, 1896, grants bounties on construction within the kingdom of Hungary as follows: (1) for iron and steel hulls, per ton (net) of measurement, 30 to 60 konen (\$6.09 to \$12.18); (2) for wooden ships per ton (net) of measurement, 10 to 25 kronen (\$2.03 to \$5.075); (3) for engines and all

sorts of auxiliary machinery, per ton of materials used, 10 to 15 kronen (\$2.03 to \$3.045); (4) for boilers and pipes per ton of material, 6 to 10 kronen (\$1.218 to \$2.03). The exact rate between the limits fixed is determined by the proportion in which foreign or national materials are used,—construction with all foreign material receiving the lowest, construction with all domestic material the highest bounty. Ship-building firms in order to claim the bounties must submit to the control of the minister of commerce. The total amount paid out yearly must not exceed 200,000 kronen (\$40,600).

In beauty of structure and logical completeness in every detail, this law surpasses any bounty act we have yet studied. In its practical working, however, it is, unfortunately, like the perpetual motion mechanisms which take up so much space in the patent office at Washington. It doesn't "go." All the ships of the Hungarian merchant marine were built in English dock-yards,¹ consequently no bounties have been paid and the official statistician is debarred from the innocent joy of showing in figures how much prosperity has resulted from this beneficent law.

Table No. XXVI, compiled from information given in Commercial No. 4, gives the payments of subsidy under the law of 1893 and under special contracts, together with the tonnage of the whole Hungarian marine. The amount of the subsidies is so palpably out of all proportion to the size and importance of the marine, even of a subsidy-giving country, that comment is unnecessary. It was impossible to learn every specific expenditure, so that the total column is not merely the sum of the various amounts given in the columns preceding. The government has in ten years

¹ See Parl. papers, Com. No. 4 (1901), p. 8.

expended more than enough to buy the whole marine outright, and in spite of the disproportionately large subsidies, or because of them, the tonnage has declined by about one-eighth since 1893. It is probable, however, that the carrying capacity has considerably increased, but as we have already shown, increased capacity does not signify increased service.

TABLE XXVI

Special Subventions to Steamship Companies
(In 1000 pounds)

Years	Bounties on tonnage. Law of 1893	Adria Co.	Hungaro-Croatian Co.	Schwartz Line	Hungarian Levant Co.	Total bounties about	Total tonnage of merchant marine (in 1000 tons)
1890-----	--	25	3	.6	----	63	53
1891-----	--	25	3	2.3	----	65	53
1892-----	--	47	8	2.9	----	59	61
1893-----	1	47	9	2.9	----	62	69
1894-----	4	47	10	3.1	----	65	66
1895-----	4	47	10	3.1	----	65	64
1896-----	3	47	11	3.1	----	66	63
1897-----	5	47	14	4.1	----	71	66
1898-----	4	47	16	4.1	6	79	62
1899-----	4	47	16	4.1	7	80	----
Totals-----	28	431	103	35.8	13	678	

SPAIN

Little could be learned of the bounties given by Spain. By an act of June 26, 1887, the Spanish government granted postal subsidies amounting to 9,840,000 pesetas (\$1,868,120) a year to various steamship lines carrying mails to Cuba, Porto Rica, the Philippines, and other Spanish possessions. Since the Spanish-American war, no information could be obtained re-

garding these subsidies. The law of 1895 granted a construction bounty of 40 pesetas (\$7.72) per gross ton on wooden vessels, 75 pesetas (\$14.48) per gross ton on iron and steel steamers, and 55 pesetas (\$10.62) per gross ton on vessels of mixed construction, and sailing vessels of iron or steel. Table No. XXVII gives the tonnage of the Spanish merchant marine for different periods. Vessels of 50 tons and upwards are included.

TABLE XXVII

(Amount in 1000 tons)

Year	Sail tonnage	Steam tonnage	Total
1880	326	233	560
1890	210	407	618
1895	193	526	719
1896	191	564	756
1897	158	499	657
1899	151	555	707
1900	94	714	809

The Spanish marine slowly increased up to 1895. The year after the passage of the bounty law is marked by a rapid expansion, which was followed by a very much more rapid decline. To ascribe these fluctuations to the bounty would be ludicrous. The decline was probably due to the increased taxes and business depression brought about by the colonial wars which greatly increased governmental expenditures and cut off a large part of the colonial trade. During the war with the United States, Spain lost eighteen large steamers of 31,316 tons. The results of the war seem to have been to the advantage of Spain. First, she got rid of the chronic state of warfare existing in her colonies; second, the \$20,000,000 paid by America for the Philippines greatly aided the development of her domestic industries; and, third, the shock of her losses awakened Spain to the necessity of developing her national resources. The

loss of her colonies greatly diminished exports of manufactured articles for a time, but the trade is rapidly recovering. In conjunction with this general betterment of conditions, the marine has grown with great rapidity.¹

RUSSIA

The oldest and most important subventioned line in Russia is the Black Sea Navigation Company with headquarters at Odessa.² It was founded in 1856 under the protection of the government, which furnished part of the necessary capital and gave land for docks, etc. The company now owns 77 steamers of about 190,000 gross tons, 36 of which are mail steamers. In earlier years the subsidy was 1.9 million rubles. In 1899 it was 650,000 rubles (\$334,750).³ Besides this mileage subsidy, the government pays back the Suez canal dues amounting to 200,000 rubles (\$103,000) in 1899. The company has numerous lines in the Black Sea, maintains a service to the Levant and Alexandria, besides lines from Odessa to St. Petersburg, Marseilles, and Vladivostok. On its capital of about ten million rubles it paid a dividend of six per cent in 1901.

The next line in size and importance is the so-called Russian Volunteer Fleet, which is a peculiarly Russian institution. It was founded in 1878 by private contributions as an auxiliary war fleet. Its management is so closely associated with the Russian bureaucratic government that it is difficult to say if it is a private or

¹ See *Handelsarchiv* for the years in question under "Spain."

² Greve, W. *Seeschiffahrts-Subventionen*, p. 110; Com. No. 4 (1901), p. 81.

³ The ruble fluctuated greatly in value until 1896 so it is impossible to estimate the value of these earlier subsidies in our money.

a state institution. The steamers are built for cruising, not for commerce. With a gross tonnage of about 130,000 tons, the carrying capacity is only about 50,000 tons net. Under the present regulations, which continue to 1912, the fleet must make eighteen round trips yearly between European ports and ports of the Far East. The subvention is fixed at 600,000 rubles (\$309,000) per year, and in 1899 the repayment of canal dues amounted to another 600,000 rubles.

The estimates of the department of trade and industry of the ministry of finance for 1901 assigned 3,086,070.60 rubles (\$1,589,326.36) for the encouragement of Russian navigation.¹ It was apportioned as follows: (1) To the Black Sea Navigation Company mileage at 1.75 to 2 rubles per mile (1891 to 1905), 616,000 rubles (\$317,240), mileage for Black Sea Bulgaria Line (1895 to 1905), 39,084.50 rubles (\$20,128.52), a total of 655,084.50 rubles (\$337,368.52); (2) To the Amur Navigation Company for maintenance of steam communication in the Amur Basin (1894-1903, at the rate of 1.37 rubles per verst, 183,532.50 rubles (\$94,519.24). From 1904 to 1908 this amount is to be diminished by 5 per cent. (3) To Feodoroff for service between Vladivostok and Russian Island, (to 1903), 6,000 rubles (\$3,090). (4) To the Black Sea Danube Steamship Company mileage (1898-1901), 313,180 rubles (\$161,287.70. (5) To the Archangel-Murman Steamship Company mileage at the rate of 3.33 rubles per mile, for regular service in White Sea and Frozen Ocean (1896-1915), 227,464 rubles (\$117,143.96), for regular service between Petchora and Archangel, (1898-1915), 13,596 rubles (\$7,001.94), a total of 241,060 rubles (\$124,145.90). (6) For regular service on the Petchora River, 10,000 rubles (\$5,150).

¹ Com. No. 4, (1901), p. 81-83.

(7) To Glotoff for additional sailings on the Lena River (1900-1907), 42,213.60 rubles (\$21,740). (8) Subsidy for service on one branch of the Amur River, 35,000 rubles (\$18,025). (9) Subsidy to Volunteer Fleet, 600,000 rubles (\$309,000). (10) Return of Suez Canal dues paid by Russian steamers, 1,000,000 rubles (\$515,000). In addition to these subsidies, the government pays the following postal subventions: (1) To the Amur Navigation Company, mileage for regular postal service (1898-1902), 66,467.50 rubles (\$34,230.76). (2) To the Caucasus and Mercury Company, mileage for regular postal service on the Caspian Sea, 289,390.40 rubles (\$149,036.06). (3) To the Kiakhta Company, mileage for regular postal and passenger service on Lake Baikal, 33,938 rubles (\$17,478.07). (4) To Glotoff, for regular postal service on Lena River (1896-1908), 50,737.50 rubles (\$26,129.81). Total of postal subventions 440,533.40 rubles (\$226,925.20). Grand total, subsidies and postal subventions, 3,526,604 rubles (\$1,816,251.56). In 1899 the amounts were 2,993,533 rubles (\$1,541,669.50) for subsidies and Suez Canal tolls, and 439,467 rubles (\$226,325.51) for postal subventions, making a grand total of 3,433,000 rubles (\$1,767,995). According to the British reports, the amount was £239,993 in 1890, £260,037 in 1894, £364,756 in 1899, and £374,701 in 1901.¹ This shows a rapid increase in the amounts expended to encourage shipping, for the postal subventions have remained practically constant.

In attempting to trace the effect of these subsidies upon the merchant marine, of course, all payments for inland navigation must be excluded. This excludes all the postal subventions, as well as the subsidies for river and harbor navigation. The payments to be con-

¹ Com. No. 4 (1901).

sidered then are those made to the Black Sea Company, the Black Sea-Danube Company, the Archangel-Murman Company, and the Volunteer Fleet, together with the Suez canal tolls refunded, making a total of 2,809,324.50 rubles (\$1,446,802.12) in direct bounties. Not all of the refunded tolls go to the Volunteer Fleet and the Black Sea Company, as all Russian vessels receive reimbursement of tolls in full on arrival at or departure from a Russian port in the Far East, and two-thirds in other cases. As a further measure of encouragement, dating from July 1, 1898, to continue ten years, vessels purchased abroad, if destined for the foreign sea-borne trade, are exempt from the exorbitant duties levied on such vessels. The duties on foreign-built steamers to be used in inland navigation are not so high as formerly, and are made payable in installments extending over five years. In 1899 the coasting trade, from which foreign vessels are excluded, was made to include navigation between any two Russian ports in any seas. At the same time, it was required that vessels engaged in coasting trade be manned exclusively by Russian seamen and officers.

No bounties on construction and no general bounties on navigation further than the return of the Suez canal tolls are given by Russia. The growth of the fleet engaged in foreign commerce is shown in Table No. XXVIII for the period 1896-99 inclusive. During

TABLE XXVIII ¹
(Amounts in 1000 tons)

Years	Steam		Sailing		Total tons
	No.	Tons	No.	Tons	
1896.....	341	128	1628	147	276
1897.....	377	158	1684	150	309
1898.....	391	166	1755	155	322
1899.....	410	182	1674	146	328

¹ From Com. No. 4 (1901).

this time the Russian tonnage actually engaged in the trade with European Russia, both foreign and domestic, decreased absolutely, though not so much as foreign tonnage. (See Table No. XXIX, which gives the number and tonnage of all vessels entered and cleared from the ports of European Russia from 1898 to 1901 inclusive.) The meagerness of accurate informa-

TABLE XXIX ¹

(Amounts in 1000 tons)

Years	Entered				Cleared.			
	Russian No.	Tons	Foreign No.	Tons	Russian No.	Tons	Foreign No.	Tons
1898--	1261	736	4505	3348	1443	877	7789	6606
1899--	1166	734	4729	3791	1285	683	7153	5987
1900--	1114	716	4335	3373	1383	699	7712	6467
1901--	1109	727	3987	3049	1349	713	7441	6823

¹ Compiled from Statesman's year book, 1902 and 1903.

tion, however, does not permit a conclusion to be drawn. It is at least possible that, in the case of Russia, possessing as she does immense undeveloped resources, with a large but ignorant and unprogressive population, a protective policy rationally carried out would not only increase the national wealth more rapidly, but would at the same time lead the people to a higher economic level which they could scarcely reach at all if left to work out their own economic salvation. In this development, the great companies could not monopolize all the *benefits*, though they would undoubtedly absorb all the direct *bounties*. But it is impossible to believe that the present protective policy of Russia is either rational or just. No financial Moses has yet arisen to lead this people out of its economic bondage.

HOLLAND

The home government of the Netherlands gives no bounties on construction or navigation, but subventions for steamship lines for the conveyance of mails. The company receiving the largest subvention is the *Stoomvaartmaatschappij Zeeland* for the daily conveyance of the mails to England (Vlissingen to Queensborough). The other subventions are paid for services to the Dutch colonies in the East and the West Indies. The *Koninklijke West-Indische Maildienst* performs the service from Amsterdam to Parimaribo and Curaçoa. The other two lines run to the Dutch East Indies and the costs of their subventions are divided equally between the home and the colonial government. The *Nederland* line runs between Amsterdam and Batavia and the "*Rotterdamschen Lloyd*" runs between Rotterdam and Batavia.

Independent of the home government, the Dutch East-Indian government gives general mileage-subventions for the maintenance of regular communications with the various ports of the East Indies. Most of the sums expended go to the *Koninklijke Paketvaart Maatschappij* (Royal Packet-boat Company). The rates until January 1, 1899, paid to this company for the different services it performed varied from 1.50 florins (\$0.603) to 20 florins (\$8.04) per geographical mile¹ according to the importance of the line. Under the new contract the rates are between 1.50 fl. and 10 fl. per geographical mile.

Table No. XXX gives the cost of these five regular services from 1889 to 1898. The contracts with the Royal Packet-boat Company did not go into effect until

¹The Dutch geographical mile = 4 English geographical or nautical miles.

January 1, 1891. On January 1, 1899, the new contract went into effect and the total subvention paid to the line was greatly reduced, the contract providing in round numbers 375,000 fl. a year. Besides the amounts given in the table, which are for contract services only, The Royal Packet-boat Company received considerable sums from the colonial government for its non-contract voyages. The largest amount received was in 1894 with a round 957,000 fl.¹ In 1901, the colonial government made arrangements to subsidize a line of steamers between Java, China and Japan, the amounts to be

TABLE XXX

(Amounts in thousands)

	Royal West-India Mail Service florins	Zeeland Co. florins	Nederland Co. ² florins	Rotterdam Lloyd ² florins	Total subventions for mail service simply florins	
1889	35	301	161	32	531 =	\$213
1890	36	302	158	32	529 =	212
1891	36	302	160	33	532 =	214
1892	36	315	163	35	550 =	221
1893	36	310	150	83	580 =	233
1894	36	303	132	130	602 =	242
1895	36	390	170	170	768 =	308
1896	45	304	213	213	777 =	312
1897	46	304	213	223	788 =	316
1898	47	440	210	221	919 =	369

	Miles run	Amounts paid by Dutch East-Indian Gov. to Royal Packet Co. Subventions paid florins	
1889	--	---	---
1890	--	---	---
1891	90	650 =	\$261
1892	95	671 =	269
1893	94	696 =	280
1894	94	656 =	264
1895	94	659 =	265
1896	95	704 =	283
1897	94	666 =	267
1898	89	648 =	261

¹ Greve, W. Seeschiffahrts-Subventionen der Gegenwart, p. 107.

² One-half of these subventions are paid by the Dutch East Indian government.

300,000 fl. the first year, 250,000 fl. the second and 200,000 fl. the third year.¹

The Dutch home government does not regard these subventions as in any way protective or favorable to shipping. The whole purpose of the sums expended is the payment for carrying the mails. The contracts are not let openly, but there is no reason to think that the payments are in the nature of subsidies. The government allows the ship-owners to look out for themselves. On account of unprogressive business methods, the shipping of Holland has retrograded somewhat in comparison with some other countries. At the beginning of the 90's Dutch ships carried thirty per cent of the sea-borne trade of Holland; in 1900 the proportion had fallen to twenty-five per cent. Tonnage, however, has increased slightly and, as it consists mostly of steam tonnage, the marine is very efficient.² The slight relative decline in the movement of national trade is in all probability only temporary.

SWEDEN AND NORWAY

The governments both of Sweden and of Norway grant small postal subventions for the furtherance of the mails, and also state contributions for the furtherance of commerce and navigation. In addition, shipping is exempt from taxation in both countries, so that the sum total of benefits conferred upon the merchant marine is by no means so insignificant as is generally supposed. The amounts paid by each of the two governments for the period 1890-99 are shown in Table No. XXXI. The amounts paid by Norway have been

¹ Greve, p. 108.

² See *Handelsarchiv* under Nederland.

TABLE XXXI ¹

(In 1000 pounds)

Years	Subventions paid by Norway			Subventions paid by Sweden		
	Postal subv.	State contrib.	Total	Postal subv.	State contrib.	Total
1890-----	3	--	3	5	1.8	7
1891-----	6	14	20	5	1.7	7
1892-----	6	14	20	5	1.6	7
1893-----	6	14	20	6	.3	7
1894-----	6	14	20	5	.4	6
1895-----	7	17	24	5	.2	5
1896-----	8	19	27	5	.4	5
1897-----	8	18	26	7	.2	7
1898-----	9	18	27	9	1.0	10
1899-----	9	18	28	16	.4	17

¹ Compiled from information given in Commercial No. 4 (1901).

and still are considerably higher than the payments made by Sweden. The postal subventions are in both countries no more than mere freight tariffs for mail transport. The contributions are paid solely to promote navigation, but they are so small in amount that it is absurd to attribute the growth of Scandinavian shipping to them. The management of the English Wilson Line trading with Norway complains of the severe competition from the Norwegian steamers running between Norway and Newcastle.¹ They ascribe the success of the Norwegian competition to the subventions. It is far more likely the result of efficient management coupled with the well-known skill and enterprise of the Norwegians as seamen. Of all maritime nations, Norway has by far the largest percentage of sea-faring population; to every 1000 inhabitants she has 1162 tons of shipping, while England in second place has only 634 tons.² The meager resources of the land are insufficient to support the population; thus

¹ Report of select com. (1901), p. 171.² See Norway, Official publication for the Paris exposition 1900, p. 405.

they are compelled to turn to the sea for their livelihood. The Scandinavian sailors are the best and cheapest in the world. They make up a large percentage of the crews working English, American, and German ships. Wood abounds and the greater part of the merchant fleet consists of wooden sailing craft of domestic construction. The shipping laws put no restrictions upon owners, so a large number of the steam vessels are purchased in England, many of them at second hand. The fleet is of necessity cheap, for there is not much capital in the country; but it is the result of steady development and is therefore exactly suited to the needs of the country. The exports from Norway and Sweden consist of lumber, iron ore and other bulky and heavy articles of little worth. Freight rates in consequence must be very low. A "Deutschland" in this trade could not earn enough to pay for the coal she would consume. By reason of her surplus of cheap, efficient labor force, and her cheap, serviceable fleet, Scandinavia is prepared to do the cheap freighting of the world better and cheaper than any rival. Some other nations by subsidizing have attempted to drive her from her one great national industry. Table No. XXXII shows the changes in tonnage of both Norway and Sweden for a series of years. Total tonnage is decreasing in Norway while it is increasing in Sweden. In both countries the

TABLE XXXII

(Amounts in 1000 tons)

Years	Sail	Norway Steam	Total	Sail	Sweden Steam	Total
1880-----	1460	58	1518	461	81	542
1890-----	1502	203	1705	369	141	510
1895-----	1283	321	1604	301	181	483
1897-----	1169	383	1552	289	234	524
1900-----	1002	505	1508	289	298	587
1901-----	935	531	1467	288	325	613

sailing tonnage is declining, though in Sweden very slowly. It is, of course, absurd to ascribe these changes to the effects of the subventions. The exemptions of shipping from taxation may, however, have considerable effect in keeping up the tonnage.

JAPAN

Earlier Legislation. The first steamship company in Japan was founded in 1869, by Jwasaki Yataro. With the aid of liberal grants from the government, this remarkable man established steamboat communication between the different Japanese ports, as well as with the continental ports of Siberia, China, and Corea. He possessed a complete monopoly of steam navigation in Japan, and pushed his advantage to the utmost. The governments ought to break the monopoly, which it had created, by founding a rival undertaking. After a short period of warfare, Jwasaki persuaded the new company to unite with him. Thus was founded the *Nippon Yusen Kaisha*, which is still by far the most powerful steamship company in Japan. It is a noteworthy fact that Japan learned the art of combination in the sea transport business before any other people.

In recent years Japan has taken active measures to encourage ship-building and navigation. Previous to 1896 the only aids given to Japanese shipping were the postal subventions, amounting to 945,000 yen yearly in 1890 and 1891, and 930,000 yen yearly for the subsequent years until the new law went into effect.¹ The law of October 1, 1896 granted both construction and navigation bounties and provided for a greatly extended postal service, the vessels performing postal service to

¹ Com. No. 4 (1901).

receive therefor the regular navigation bounties and no more. The most important provisions of the law are given below.¹

Any company composed of Japanese subjects exclusively as members and share-holders which shall establish a ship-yard conforming to the requirements of the minister of state for communications, and shall build ships, shall be entitled to receive bounty for the encouragement of ship-building as follows : for vessels of over 700 tons and under 1,000 tons burden 12 yen (\$5.976) per gross ton ; for vessels over 1,000 tons burden, 20 yen (\$9.96) per gross ton. A further bounty of 5 yen (\$2.49) per horse power is granted for engines constructed in Japan. Only Japanese materials may be used in vessels for which construction bounties are paid, unless permission to use foreign materials be obtained from the minister of communications. The estimated expenditure under this article for 1899 was 277,250 yen (\$138,070.50).

The general navigation bounties are granted only on steam vessels owned exclusively by Japanese subjects and plying between Japanese and foreign ports. The rates are as follows : 25 sen (about 12½ cents) per gross ton per 1,000 miles run for a ship of 1,000 tons, steaming at the rate of 10 knots an hour. Ten per cent is added to this rate for every additional 500 tons, and twenty per cent for every additional knot in speed until the limits of 6,000 tons and 17 knots are reached. Foreign-built ships less than five years old were admitted to full navigation bounties. Fifteen specific postal routes were established by this law calling for an expenditure of 4,964,404 yen (about \$2,482,202) per annum when fully operative. As mentioned above, the payments for postal

¹ *Handelsarchiv*, 1896, under Japan ; Special consular reports, vol. XVIII.

service were computed at the mileage rate given for navigation. The more important lines established under this law were the line to Europe, two lines to the United States, and one to Australia.

The effect of this law was felt immediately. The *Nippon Yusen Kaisha* increased its capital from 8.8 million yen to 22 million yen and ordered from England eighteen large freight steamers, aggregating 88,000 tons. The *Osaka Shosen Kaisha* ordered thirteen steamers and other companies doubled or trebled their fleets.¹ It was thought that one had only to build steamships in order to become wealthy. The overproduction of ships forced freights down, and this, coupled with the economic crisis of 1898-99, brought severe losses upon the shipping companies, notwithstanding the large subsidies. At the same time the government felt the necessity of contracting these expenditures for subsidies, which were rapidly growing beyond all reasonable limits. The sums expended for bounties on construction and subsidies to navigation including the postal contract lines were as follows: 1896, 1,027,275 yen; 1897, 2,127,086 yen; 1898, 4,132,123 yen; 1899, 5,846,956 yen; a total of 13,133,440 yen (about \$6,566,720).² In proportion to the resources of the country this is an enormous expenditure.

Laws of 1899 and 1900.—To restore the disturbed equilibrium, a law was enacted in March, 1899, reducing the navigation bounties upon foreign-built ships by one-half, at the same time fixing the subsidies to the postal lines at certain yearly sums. The *Nippon Yusen Kaisha* receives for ten years from January 1, 1900, a

¹ *Revue Maritime*, 1901, p. 1953 f. from Greve, W., p. 59.

² Com. No. 4 (1901), p. 51.

yearly subvention of 2,673,874 yen (\$1,336,937) for a fortnightly service to London and Antwerp. The steamers, twelve in number, must be at least 6000 tons with a speed of not less than 14 knots. The same company receives 654,030 yen per annum for a monthly service to Seattle, with three steamers of at least 6000 tons each and a speed of 15 knots. Since 1901 the company of its own accord made this service fortnightly. For the monthly service via Manila to Brisbane, Sydney and Melbourne, with three steamers of at least 3500 tons and 14 knots, the company receives 525,657 yen per annum. By a law of Feb. 23, 1900, the postal services were extended and the *Nippon Yusen Kaisha* received an additional 446,300 yen for a line to Bombay and services to various East Asiatic ports, so that its yearly subventions amount to 4,299,861 yen (about \$2,149,930).

The *Osaka Shosen Kaisha* receives 341,500 yen per annum for maintaining various services to China, Corea and South China. The contracts hold until 1905 and 1911. The *Tokyo Kisen Kaisha* receives until 1910 a subvention of 951,700 yen for a monthly service to San Francisco with three steamers of at least 6000 tons each and a speed of 17 knots. By arrangements with the American Pacific Mail Steamship Company the ships of the two companies make their voyages alternately, thus giving fortnightly communication between Japan and San Francisco. The establishment of regular services by way of Hong Kong to Manila, Java and eventually to Australia is intended. Finally the *Daito Kisen Kaisha* receives 54,750 yen per annum for maintaining a line to Shanghai. Thus the postal subventions alone amount to about 5,647,811 yen (\$2,823,905) a year. I have been unable to learn what amounts

have been distributed as general navigation subsidies, or as construction bounties under this law, but they would scarcely bring the total expenditure in subsidies above six million yen.

Conclusion.—These laws have had immediate and far-reaching effects. The *Nippon Yusen Kaisha*, as we have seen, made arrangements to exploit the bounty of 1896 with the greatest vigor. This line had a tonnage in 1891 of less than 100,000 gross tons; in 1901 its tonnage was 218,361 gross tons.¹ Other shipping companies show an even greater per cent. increase. The increase in the Japanese marine is shown in Table No. XXXIII. This rapid growth was

TABLE XXXIII
Tonnage of Japan
(In 1000 tons)

Years	Sail	Steam	Total
1880	48	41	89
1890	51	93	145
1895	41	213	254
1896	25	227	253
1897	45	273	318
1898	170	477	648
1899	286	510	796
1900	320	543	863

not merely an addition to the idle tonnage as in the case of Austria and some other countries. From 1890 to 1899 the foreign commerce of Japan increased more than four-fold. During the same period the share of Japanese shipping in the foreign trade of the empire increased from about 22.2 per cent. to about 36.4 per cent. All this indicates a marvellously rapid development, but it will not do to ascribe all this, as some do, to the working of the subsidies. Those who possess a deep and abiding

¹ Jour. Stat. Soc. vol. 64 (1901), p. 484.

faith in the efficacy of subsidies, and who use statistics merely as food to nourish this faith, derive much strength and comfort from the above figures. To attempt overthrowing this faith is useless. A closer scrutiny of the history, however, compels an impartial mind to recognize that the testimony of the facts is not at all in favor of the subsidies.

Shipping grew as rapidly before the law of 1896 as after in spite of the monopolistic power of the *Nippon Yusen Kaisha*. Since 1868 Japan has experienced an economic revolution even more astounding than its political revolution. The methods and machinery of production were changed with incredible rapidity. In a few years the nation rushed from barbarism into civilization through the power of its imitative genius. But the progress was not swift enough to satisfy the leaders and they imitated the protective methods used in western lands to stimulate progress. The first experiment with state aided steamship navigation created a monopoly that exploited both government and people. The attempt to fight the devil with fire by creating another state supported steamship company to compete with the first led to a "community of interests" arrangement that must excite the admiration of the king of Wall street promoters. But the ambitious Japanese leaders were determined to have immediately all the institutions possessed by European nations, and accordingly long distance postal lines were established by the law of 1896. There is no doubt that the lines established by this law are now running profitably. It is equally certain that the law was in part responsible for the subsequent stagnation in trade and industry which led the government to modify this extravagant measure. The laws of 1899 and 1900 provide for very large expenditures in propor-

tion to the resources of the country and the value of money in relation to commodities and services, but the expenditures are held within limits so there can not be a repetition of the too rapid multiplication of ships. Whether these payments are purely subventions for postal service, or partly subsidies, they have attracted capital into shipping, and the economic development of Japan, her geographical situation, resources, and the character of her population made the development permanent. Shipping would have developed anyhow,—in fact was developing with great rapidity. The government merely gave form to the maritime undertakings of the capitalists. It will always be a question if the government gave the best direction,—whether the development would not have been sounder, though less rapid, had the capitalists been left to decide for themselves what lines to establish.

OTHER COUNTRIES

DENMARK

Denmark paid the following subsidies during the year 1896–97.¹ (1) To the Esbjerg-Parkeston Line, 187,270 kroner (\$50,190.36) as compensation for the lower freights charged by the company on dairy produce and fish exported to England. (2) To the Gjedser-Warnermunde Line 71,200 kr. (\$19,081.60), a fixed subsidy. (3) To the Kalundborg-Aarhus Line, 52,295 kr. (\$14,015.06). This line runs between Danish ports only. If the freight charges do not amount to a certain sum, the state makes good the deficit, which is set down in the budget as 50,000 kr. but amounted to the above sum in

¹ See Commercial No. 2 (1898), p. 18 (Brit. parl. papers).

1896-97. (4) To the Copenhagen-Faroe-Iceland Line, 40,000 kr. (\$10,720), a fixed yearly subvention for carrying the mails, etc. (5) To the Copenhagen-Malmoe (Sweden) Line, 8760 kr. (\$2347.68), a fixed monthly sum of 730 kr. for carrying the mails. (6) To the Esbjerg-Grimsby Line since September 1, 1897, a fixed yearly subsidy of 60,000 kr. (\$16,080). Wharfage dues at Esbjerg are also remitted, being estimated for the year in the budget at 15,000 kr. (\$4,020). As will be noticed only two of these subventions are for carrying the mails, viz.: to Iceland and to Sweden, the other payments are to encourage trade especially export trade. As the payments are made directly for reductions in freight rates which are strictly supervised by the government, they accomplish their purpose. By this arrangement the subsidies are not really shipping subsidies, but are subsidies to export. Whether any portion of the subsidies goes to benefit the producers could not be learned.

The amount of the fixed subsidies paid by Denmark is 179,960 kr. (\$49,229.28). The total of all subsidies paid in 1896-97 was 419,525 kr. (\$112,432.70). The merchant marine of Denmark in 1900 numbered 3773 vessels of 408,440 tons, 521 steamers of 250,137 tons, and in 1901, 3841 vessels of 416,548 tons (536 steamers of 259,360 tons).

BELGIUM

The Belgian government pays neither postal subventions nor bounties of any kind to domestic shipping. Before 1852, subsidies were paid for ship-building.¹ In order to encourage the commerce of Antwerp, subsidies are paid to three foreign lines: to the North German

¹ See Report of select committee on S. S. subsidies, (Parl. papers, 1901), p. 5.

Lloyd on its East Asiatic and Australian lines, 80,000 fr. (\$15,440) a year and repayment of light and pilotage dues; to the German-Australian line, 1500 fr. (\$289.50) for each call to or from Australia, outward bound vessels to call every four weeks, and inward bound vessels not less than six and not more than thirteen times a year, so that the maximum subvention for one year can not exceed 39,000 fr. (\$7527). The Danish steamship company, *Forenede Dampskibsselskab* receives no direct payments, but only certain facilities such as exemption from harbor and light dues, etc. In the case of the North German Lloyd Company at least, the payment was granted under threat of making the rival Dutch port of Rotterdam the port of call if the required subsidy was not forthcoming. This method of collecting subsidies bears a close resemblance to the practices of railroad construction companies in our own country in early times. No doubt Antwerp would lose more than the amount of the subsidies by diversion of trade to Rotterdam as a result of refusal to pay.

The Belgian merchant marine is not large, but it is extremely active and prosperous. In 1880 the tonnage was 75,666 tons; in 1890, 75,946 tons; in 1895, 87,213 tons; in 1897, 85,427 tons; in 1900, 120,176 tons. The sailing tonnage has continually decreased until in 1900 there was only one sailing vessel belonging to Belgium. The share of Belgian shipping in national trade fell from nineteen per cent in 1895 to sixteen per cent in 1900. The King and some ship-owners have attempted to arouse enthusiasm for bounties to encourage trade especially with the Congo Free State,¹ but the people are contented to allow competition to take its course. To those who associate the sea-carrying trade

¹ See Greve, W. Seeschiffahrts-Subventionen, p. 21.

with enormous wealth and large profits, a comparison of Belgium with Norway may be instructive. With about three times the population Belgium has more than ten times the foreign trade of Norway, though her fleet is not more than one-tenth as large as the Norwegian fleet. Norway is one of the poorest countries of Europe,—it is this fact which makes her people willing to work for the low wages which are earned in sea-transportation to-day. Belgium, on the contrary, has the largest per capita wealth of any nation; the Belgian laborer is much better paid than the Norwegian sailors, and so the Belgians work at home and allow the Norwegians to take the risks and small returns attending shipping undertakings.

PORTUGAL

The government of Portugal pays postal subventions to three steamship companies. To the Azores line, about \$45,000; to the Algarve line, about \$12,400; to the Guinea line, about \$33,330 yearly. The trade between the mother country and the colonies is restricted to the Portuguese flag. A bill was laid before the *Cortes* in 1899, providing construction and navigation premiums, but it has not been enacted into law. The shipping of Portugal is of very little importance. In 1902, the steam tonnage was only 29,443 tons and the sail tonnage, 56,588 tons, showing a decrease since 1899 of 30,000 tons in steamers and 13,000 tons in sailing vessels.

BULGARIA

The Bulgarian government owns one-fourth of the shares of the Bulgarian Steamship Company of Varna, and pays nine per cent. on the paid up capital of the

company, or about 100,000 francs (\$19,300) a year as subvention for carrying the mails, and transporting soldiers, munitions, etc. Besides this aid to domestic shipping, the government pays subventions to two foreign steamship lines as encouragement to commerce. In 1900 the government agreed to pay a yearly subvention of 120,000 francs (\$23,160) for a period of five years to the German Levant Line. There has been a considerable increase in trade between Germany and Bulgaria since this arrangement was made. In 1902 the Bulgarian government agreed to pay a subsidy of 500,000 francs a year for five years to the French Fraissinet line for regular services between Burgas, Varna, and Marseilles.

BRAZIL

Brazil formerly gave a subvention in conjunction with the United States for a postal service between Philadelphia and Rio Janeiro. Some of the individual states of the Federation give subventions today to foreign steamship companies, as for example Amazonas, which gives 200,000 milreis a year to an Italian line for twelve voyages between Genoa and Manaos. Other South American Republics, as for example Chile, give mail subventions, but it is not worth while to consider them, as they have no appreciable effect on merchant shipping.

UNITED STATES

FIRST PERIOD

If we except the bounties first granted in 1792¹ to certain cod-fishing vessels as drawbacks on the salt duties, the history of government aid to shipping in the United States begins with the act of March 3, 1845, providing for the transmission of the mails between the United States and foreign countries in American ships. This act was for the declared purpose of encouraging Americans to build and run steamships. The postmaster general was empowered to make contracts with steamship companies for either a fixed subsidy or the postage rates as follows: for ports not less than 3000 miles distant, 24 cents per half-ounce, 48 cents per ounce, and 15 cents for every additional half ounce; for the postal service to Mexico and the West Indies, 10 cents per half-ounce, 20 cents per ounce, and 5 cents for every additional half-ounce. The United States inland postage was added to the above sums in every case. These liberal rates did not induce Americans to establish mail steamship lines, so it was thought necessary to offer still more liberal terms. An act of March 3, 1847, authorized the Secretary of the Navy to accept the offer made by E. K. Collins and Company to carry the mails from New York to Liverpool, and that made by Mr. Sloo to provide five steamships for carrying the mails between New York, New Orleans, and Chagres. The latter service was to cost not more than \$290,000. Further provisions were made for carrying the mails across the Isthmus of Panama and up the coast of Cali-

¹These bounties were continued up to July 30, 1846. See U. S. statutes at large.

fornia and Oregon. The objects of this act, as set forth in the preamble, were to provide efficient mail services, to encourage navigation and commerce, and to build up a powerful fleet for use in case of war. All the subsidized ships were subject to purchase or control by the United States government whenever necessary.⁴ On February 2, 1847, the Post Office department concluded a contract for five years under the law of March, 3, 1845, with the Ocean Steam Navigation Company for the conveyance of the mails between New York and Bremen and Havre via Cowes. The contract provided payment on the basis of \$100,000 for six round trips a year to Bremen and \$75,000 for six trips a year to Havre, which gives mileage rates of \$2.23 and \$2.00 respectively. When the service should be doubled the pay was to be doubled.² It was stipulated that the steamers employed should be at least 1400 tons and faster than the Cunard steamers. The service to Bremen began June 1, 1847, but up to 1851 the vessels had no regular schedule of sailing and payments were made for each voyage separately. Sailings were irregular and so slow that few mails were sent by them. In 1851 the full service, viz., twelve trips to Bremen and twelve trips to Havre was begun. The next year Congress extended the contract until 1857.³

The Post-Office Department also contracted for a bi-monthly mail service between Charleston and Havana for a payment of \$45,000 per annum. In approving this contract, Congress added \$5000 for making Savannah a port of call. The service was begun October 18, 1848, and continued for ten years.⁴

¹ U. S. statutes, 1847.

² Ex. Doc. 30th cong., 1st sess., No. 50.

³ Ex. Doc. 32d cong., 1st sess., No. 127.

⁴ Ex. Doc. 30th cong., 2d sess., No. 15.

The Secretary of the Navy made three mail contracts during the year 1848, all of which were to run for ten years. The first was concluded with Mr. A. G. Sloo¹ for a bi-monthly service between New York and Chagres via Havana and New Orleans, to be carried on by five new steamers of 1,500 tons each. The subsidy was fixed at \$290,000 a year for traversing a distance of about 158,000 miles, or at the rate of \$1.83 $\frac{1}{3}$ a mile. The second contract was made with Mr. Arnold Harris, who immediately resigned it to the Pacific Mail Steamship Company represented by Mr. W. H. Aspinwall. It provided for a monthly service to be conducted by three new steamers between Astoria and Panama, calling at San Francisco, Monterey, San Diego and Umqua City. The subsidy was at first \$199,000. Later the route was modified, the sailings made bi-monthly, and the subsidy increased to \$384,250 for sailing about 201,600 miles, or at the rate of \$1.90 per mile. The third contract was made with Mr. Edward K. Collins for a bi-monthly service during eight months of the year and a monthly service during the four winter months, between New York and Liverpool. The contractor agreed to build five new first class steamers of at least 2,000 tons burden. In consideration of his services he was to receive \$385,000 a year for traversing about 124,000,—a mileage rate of \$3.11 a mile.² In every case the mileage rate has been calculated upon the total distance sailed out and back. In computing the cost of the trans-Atlantic mail service the outward voyage alone should be considered so the rates must be doubled in order to compare the cost per

¹ Mr. Sloo transferred the contract to Mr. George Law of the N. Y., New Orleans and Aspinwall line.

² Ex. doc. 30th cong., 1st sess., nos. 50, 51; 32d cong., 1st sess., nos. 1 and 50.

mile of this service with the cost per mile of the services to Panama, or with the English colonial services.

The service between New York and Chagres was begun in 1848 and was continued with regularity until the expiration of the contract. The service between Astoria and Panama was not at first satisfactory, partly because of the failure of the company to provide sufficient and suitable vessels, and partly because of the impossibility of securing crews on the California coast during the gold excitement.¹

Through delays in building the necessary ships, the Collins contract did not go into effect until June 1, 1850. The original terms of this contract granted a subsidy of \$19,250 per voyage for twenty voyages a year. At this time the Cunard line was receiving £145,000 per annum for a weekly service, forty-four trips per year, over the same route, or about \$15,000 per voyage. The ships of the Collins line were in every way superior to the Cunard vessels and it was the boast of the Americans that they would beat the English in steam navigation as they had already beaten them in fast sailing. The English line had the advantage of twelve years' experience, a larger subsidy for a more frequent service, and all the prestige that accrues to a long established line. Besides this, England's need of ocean mail service, and her ability to pay subsidies to maintain English ships were greater than the need and ability of the United States. The American line had the advantage in the size, strength, speed and equipment of its vessels. Mr. W. S. Lindsay² maintains that the Cunard subsidy was not too large considering the importance of the services rendered. He characterizes the English policy as wise and liberal and

¹ *Ibid.*, 30th cong. under *Mails to Panama*.

² *History of merchant shipping*. See *Cunard and Collins lines*.

condemns the American policy as extravagant and a tax upon the people. He says that the owners of American sailing ships complained justly of this system which gave protection to steamships at the expense of sailing ships. Unfair as these statements appear on first comparison, yet there is much truth in them. Mail communication was much more important to Great Britain than to the United States. Coal, iron and labor were far cheaper in England, and the establishment of permanent, economical steam navigation, from the first less problematical for England, was now no longer an experiment as it was in America.

The establishment of the Collins line was productive of some substantial benefits, and, as the subsidy was responsible for the starting of the line, it may be credited with bringing about these benefits. Before 1850, Mr. Cunard had a virtual monopoly of the faster freight business, and charged all the traffic would bear. In a few months after the Collins line started, freights fell from £7 10s. per ton to £4 per ton.¹ Commerce and passenger traffic were increasing rapidly. But the severe conditions of the mail contract made it impossible for the Collins people to secure any very large part of the growing freight business without great outlay for slower cargo boats, for the quick sailing with short stay in port made it impossible for the mail steamers to secure or carry much cargo.

Mr. Cunard had labored persistently to prevent the formation of a rival American line. In 1848 he used the "American scare" to induce Parliament to raise his subsidy to £145,000, as payment for extra service which he put on to New York from Liverpool direct, in the hope of smothering American competition before it be-

¹ See Hist. of mer. shipping, under Collins line.

gan. He complained because his subsidy was not increased to £170,000 instead of £145,000 when he thus doubled the service.¹ In 1851, a year and a half after the Collins line started, Mr. Cunard obtained £173,340 (\$843,000) a year for forty-four trips or about \$19,000 per voyage.

In 1852 the subsidy to the Collins line was increased to \$33,000 per voyage for twenty-six trips a year,² a rate of more than \$5.00 a mile. The competition between the American and the English line, severe from the first, now became a life and death struggle in which the competitors were backed by their respective governments. It was pretty evident that both could not survive. The superior speed and equipment of the American boats at first gave them a greater proportion of the passenger business; but the English boats did most of the freighting, which is the profitable side of most transportation businesses. Mr. Collins represented his company as unable to compete with the Cunard people unless the subsidy was increased. In a statement before a committee of Congress, he declared that to save a day or a day and a half in the run between New York and Liverpool cost the company nearly a million of dollars annually. To hold the speed record was then as now a costly form of enjoyment.

The economic conditions rendered it impossible that the Americans should compete with the English successfully at this time in steam navigation; but the actual failure of the Collins line was immediately due to disasters wholly beyond human foresight or control. The loss of the "Arctic" on September 21, 1854, had a depressing influence upon the affairs of the company. A

¹ Parl. papers, 1849, vol. 12.

² Ex. Doc. 32d Cong., 1st Sess., No. 1, p. 670.

little more than a year after, the "Pacific" sailed away from Liverpool, passed out of sight, and was never seen or heard of after. This was really the death blow to the company. They kept up the struggle for a time, but it was impossible for them to retrieve these disastrous losses. The lost "Pacific" was succeeded by the "Adriatic", the finest and fastest steamship then afloat, but shippers and passengers alike feared to trust their property and their lives to a company that had met with so many misfortunes. In 1856 Congress reduced the subsidy to the original sum of \$385,000 a year for twenty trips. Two years after, all contracts for carrying the foreign mails were abrogated, the Collins line perished, and with it perished all the grand hopes of driving the British from the seas.

Approximately the cost of this first subsidy experiment was as follows: Bremen line (1847-57) \$2 million; Havre line (1852-57) $\$3\frac{1}{4}$ million; Collins line (1850-58), $\$4\frac{1}{2}$ million; New York to Aspinwall (1848-58), \$2.9 million; Astoria and San Francisco to Panama (1848-58), $\$3\frac{3}{4}$ million; Charleston to Havana (1848-58), $\$1\frac{1}{2}$ million; total about $\$14\frac{1}{2}$ million.

The results of this expenditure were hardly gratifying to American pride. Steamship navigation had been encouraged, but it had proven a very expensive thing thus far. It might be thought that this melancholy experience would have settled the question of subsidies, but such was not the case. The advocates of subsidies asserted that great results had been accomplished, and that, if the subsidies had been continued as in England, we would have held our own or even beaten the English.

The truth is that England had the advantage at that time in the production of iron and coal,—the two most

important factors in the modern shipping problem. It is true, iron was not then used as the principal material of construction, but it was of great importance nevertheless, in the building of the machinery. At the same time England's great manufacturing industries were reaching out for wider foreign markets, and the surplus of national income was seeking profitable investments. The United States could not compete with England in building and running iron steamships. It was absolutely necessary for England to export her manufactures and import raw material, food stuffs, etc. It was even more necessary that she should keep in close touch with colonies by means of her own ships. Had we been able to build or buy and run steamships as cheaply as the English, we could not have beaten them in a subsidy war. The greater wealth of Great Britain at that time could not have left the result of such a contest in doubt.

SECOND PERIOD

From 1858 to 1866 the United States government gave no subsidies for ocean mail service. American vessels carrying mails received the sea postage plus the United States inland postage for carrying United States mails, foreign vessels received sea postage only. In 1864 a bill was introduced, authorizing the payment by the United States of \$150,000 per annum for a monthly steamship service between Rio Janeiro and a United States port north of the Potomac River, on condition that Brazil pay \$100,000 for the service. On reporting this measure favorably to the House, Mr. Alley of Massachusetts, said :¹ "Establish this steam communication with South America, and you will not a great while longer see England exporting \$28,000,000 worth of mer-

¹ Cong. Globe, 1863-4, p. 1655.

chandise and taking in return less than half the amount, and the United States exporting only \$6,000,000, while the import of Brazilian products is over \$20,000,000."

The bill became a law, and on August 29, 1865, a contract was made with the United States and Brazil Mail Steamship Company for a monthly service between New York and Rio Janeiro. The line continued for ten years, costing the two governments \$2,500,000, of which the United States paid \$1,500,000. When the subsidy

TABLE XXXIV

IMPORTS FROM BRAZIL, VALUE

(Values in 1,000,000 dollars)

	Free	Dutiable	Total	Carried in American Ships
1860-----	17.1	4 0	21.2	18.2
1863-----	.2	10.7	10.9	----
1865-----	.2	9.5	9.8	1.3
1866-----	.2	16.5	16.8	3.0
1867-----	.3	18.7	19.1	4.6
1869-----	.6	24.2	24.9	7.2
1871-----	2.1	28.4	30.5	11.3
1873-----	35.8	2.7	38.5	15.1
1875-----	39.3	2.7	42.0	17.4
1876-----	43.9	1.4	45.4	14.3
1878-----	39.6	3.2	42.9	13.3
1880-----	45.7	6.1	51.9	16.4

EXPORTS TO BRAZIL, VALUE

	Carried in American ships	Carried in foreign ships	Total
1860-----	5.4	.5	5.9
1863-----	3.1	1.7	4.8
1865-----	1.2	5.3	6.5
1866-----	1.7	3.9	5.6
1867-----	2.5	2.4	5.0
1869-----	2.8	3.1	5.9
1871-----	3.3	2.5	5.9
1873-----	4.3	2.7	7.0
1875-----	4.7	2.9	7.6
1876-----	4.4	2.8	7.2
1878-----	5.4	3.1	8.6
1880-----	5.6	2.8	8.4

was withdrawn the company suspended operations. So ended the high expectations proclaimed by Mr. Alley.

Table No. XXXIV gives the conditions of trade with Brazil before and after the subsidy. It is obvious that the statistics prove nothing for the subsidy. Imports and exports fell off during the Civil War. The restoration of peace and the institution of the subsidy came simultaneously. Those who stand for subsidies ascribe the increase in trade after 1865 to the establishment of the postal steamship line. The growth in fact seems to be entirely due to the restoration of disturbed lines of trade. Commerce was carried on almost wholly in sail vessels; the part transported by the mail steamers was not large. The fact that trade does not depend on subsidized steamship lines is shown by the continued increase in our commerce with Brazil after the company had suspended its service. It has been stated that the increase of trade is due to the removal of the tariff duties on crude rubber in 1871, and on coffee in 1872. The statistics do not warrant the statement, for the increase in the importation of coffee was relatively as rapid before as after the removal of the duty of \$.05 a pound.¹

It is a curious fact that the total quantity of coffee imported from all sources for the fiscal year 1871 (before the removal of the duty) was greater than the imports for any succeeding year until 1876. If the removal of the tariff duty which brought in an annual revenue of from \$12,000,000 to \$16,000,000 had no measurable effect on trade development, it is preposterous to suppose that a postal subsidy amounting to \$250,000 a year could have any great influence in that direction. In fact, there are so many influences at work to determine the direction and value of commerce

¹ Commerce and navigation of the U. S. for the years in question.

that the effects of a subsidy are usually negligible, or, at least, unmeasurable.

Simultaneously with the Brazilian mail subsidy measure was introduced a bill authorizing a subsidy of \$500,000 a year for a monthly service to Japan and China via Hawaii. In this case, too, great expectations of increased trade were entertained. It was confidently asserted by the advocates of the measure that the United States would soon do practically all the carrying trade for China, Japan, and India. Mr. Cole, the originator of the bill, said²: "It is as certain as demonstration can make any fact, that the expenditure will be returned many-fold in duties on increased importations, and that, too, from the very start. And then the trade will increase from year to year, almost in arithmetical progression, until, not only our expanding republic, but the whole world will be supplied through American merchants with the products of the land of Confucius."

The bill became law February 16, 1865, and the following year the government entered into a contract with the Pacific Mail Steamship Company for the service to the Orient. In the session of 1866-7, Congress released the company from the obligation of stopping at Hawaii on the way to China and Japan, and during the same session voted a subsidy of \$75,000 per annum for a distinct service to Hawaii, which was taken over by the California, Oregon, and Mexican Line. Both of these contracts were advertised openly, but in each case only one bidder came forward offering to do the service for the maximum subsidy authorized by law.

In 1872 the Pacific Mail Company offered to run another monthly service to China and Japan for an ad-

² See Cong. record, 1863-4.

ditional \$500,000 a year. With considerable difficulty a bill authorizing such a contract was passed by Congress, June 1, 1872. In 1874 it was discovered that bribery had been employed to secure the passage of the measure.¹ It was proven that the company had spent about \$1,000,000 to push the bill through Congress. The new contract was abrogated by the government because of the improper methods used in gaining the necessary legislation, and the subsequent failure of the company to fulfill the conditions of the said contract.

In 1873 the service to the Sandwich Islands was given up by the California, Oregon, and Mexican Company. It had lasted six years and had cost \$425,000. The first contract with the Pacific Mail Company for the Japan and China service expired in 1877. It actually received from the government during the ten years of its contract \$4,583,333.33. The statistics of trade with China and Japan during the period of subsidies and for some time before and after are given in Tables XXXV A and XXXV B.

No connection between the giving of subsidies and the course of trade can be established by these figures. The increase in the imports from China and Japan was due almost wholly to the larger shipments of tea and raw silk. The actual decline in the exports to China is impossible to explain. The major part of the commerce with China and Japan was carried on by sailing ships and it would have made little difference with the trade if the Pacific Mail Steamship Company had ceased to run its steamers. The practically stationary condition of the export trade to South America and the Far East during the subsidy experiments was due to the

¹ House docs., 42d cong., 2d sess., no. 598; miscel. doc., nos. 74 and 255; 43d cong., 1st sess., H. D. no. 268.

TABLE XXXV A
IMPORTS FROM CHINA, VALUE
(Amounts in 1000 dollars)

	Free	Dutiable	Carried in American ships	Total
1860-----	9,867	3,698	13,566	13,135
1863 ¹ -----	713	10,321	10,945	-----
1865-----	202	4,928	5,130	550
1866-----	250	9,882	10,132	2,326
1867-----	457	11,654	12,112	3,027
1869-----	700	12,508	13,209	5,361
1871-----	2,776	17,289	20,066	9,535
1873 ² -----	21,338	5,014	26,353	10,398
1875-----	9,705	3,774	13,480	2,839
1876-----	8,311	4,049	12,360	2,576
1878-----	12,473	3,421	15,895	4,559
1880-----	17,210	4,559	21,769	6,813

EXPORTS TO CHINA, VALUE

	Carried in American ships	Carried in foreign ships	Total
1860-----	6,774	396	7,170
1863 ¹ -----	3,555	1,637	5,192
1865-----	1,096	5,406	6,502
1866-----	4,703	3,928	8,632
1867-----	6,127	2,660	8,788
1869-----	8,881	1,377	10,258
1871-----	3,465	454	3,920
1873 ² -----	1,760	152	1,913
1875-----	1,298	167	1,465
1876-----	1,100	289	1,390
1878-----	6,390	5,069	11,460
1880-----	885	215	1,101

¹ China and Japan together.

² Previous figures include Hongkong.

fact that we had but little to export except raw materials and food stuffs, neither of which could be used to any extent in these countries. If it is necessary to demonstrate the futility of subsidies to create commerce where there is no economic reason for it, these experiments supply abundant proof. The need for quicker and more regular postal service to Brazil and the

TABLE XXXV B
IMPORTS FROM JAPAN, VALUE
(In 1000 dollars)

	Free	Dutiable	Total	Carried in American ships
1860-----	9	45	55	55
1863-----	---	---	---	---
1865-----	2	282	285	153
1866-----	88	1726	1,815	411
1867-----	101	2517	2,618	454
1869-----	58	3187	3,245	1224
1871-----	1,076	4311	5,387	2292
1873-----	8,899	353	9,253	5775
1875-----	7,633	138	7,772	2430
1876-----	14,664	843	15,508	7069
1878-----	2,289	4421	6,711	688
1880-----	13,975	534	14,510	5375

EXPORTS TO JAPAN, VALUE

	Carried in American ships	Carried in foreign ships	Total
1860-----	89	none	89
1863-----	---	---	---
1865-----	42	none	42
1866-----	427	44	472
1867-----	624	65	690
1869-----	2791	45	2836
1871-----	975	11	987
1873-----	7601	62	7664
1875-----	1336	310	1647
1876-----	801	297	1098
1878-----	1803	966	2770
1880-----	1685	839	2525

Orient was not at that time pressing, so the subventions were not actually payments for carrying necessary mails. The three trans-Atlantic lines before alluded to had some claims to governmental aid for postal reasons. The lines to Aspinwall and from Panama to San Francisco were necessary, and though the payments were excessive the importance of the service to the distant western shores of our expanding empire was great.

There was not this necessity in the case of the lines to Brazil, Hawaii, and Asia.

From 1865 to 1874 Congress was flooded with subsidy bills. On July 27, 1868, the President approved an Act giving to the Commercial Navigation Company of New York the monopoly for fifteen years of carrying all European mails weekly or semi-weekly to Queens-town, Southampton and Bremen. The vessels, seven in number, were to be built of iron in the United States. The company was to receive the inland and sea postage until they should amount to \$400,000, after which it was to receive sea postage only up to a limit of \$600,000. But the post-master general refused to make the contract required, on the ground that it was against all reason to reduce the mails from four a week to two. He offered the company a contract to carry the mails four times a week at the prescribed rates, but it was not taken. During 1872 attempts were made to establish subsidized lines to Australia and from New Orleans to Cuba, but they failed.

After the disgraceful affair of the Pacific Mail came to light, the subsidy agitators kept still for a time. During that time there was no complaint about the ocean mail service or the lack of commercial communication. Frequently British statesmen and public officials declared that the American policy of paying for carrying the mails according to weight was much more economical and satisfactory than the method of fixed subsidy. In 1879 a new scheme for subsidizing a line to Brazil was brought up by Mr. John Roach, but it was defeated. Mr. J. G. Cannon in a speech before the House of Representatives¹ on the bill said: "Beginning with the year 1847, down to the present time, we

¹ See the congressional record for 1879.

have paid out of the treasury over \$21,000,000 for the purpose of establishing steamship lines. Seven million dollars would buy all the steamship lines engaged in commerce that sail under the American flag on every ocean in the world, and more than that, the subsidizing of these steamship lines, from the Collins line in 1850 up to the present time, has bankrupted every prominent man that has favored it."

This is somewhat of an exaggeration, perhaps, but the total failure of the subsidized lines in America, while in England the mail lines, with but two or three exceptions, prospered, should have made it evident that mail subsidies are a very secondary matter in the competition for the ocean carrying trade. As before indicated the economic conditions of the two countries were quite different. England had large manufacturing interests, seeking an outlet for surplus products, and offering a market for raw materials. Our manufacturers could not supply the home market and our raw products, which were all we had to export, could be sold only in Europe. England had large foreign possessions with which it was absolutely necessary to keep up communication; we had no distant possessions unless we include California as such, before the building of the Pacific railroad. In fact, Great Britain and her dependencies was an empire, while the United States at that time was no more than a colony. Finally, England had incomparably greater facilities for producing and running iron steamships. All things considered, there is some justice in the statement that, in the case of England, the mail subvention system was a wise and liberal policy, while in the case of the United States, it was a tax on the people to support a mistaken policy.

The beginning in the decline of the American mer-

chant marine was not, as is quite generally supposed, the war of the rebellion, although that event caused the loss of an immense amount of tonnage. This loss would have been regained after the restoration of peace, had conditions remained as during the first half of the nineteenth century. The change from wooden to iron construction, and from wind to steam propulsion, together with the great impulse given to the development of inland industries and communications by the war and the financial policy growing out of the war, were the causes of the continued decline of the American marine. The subsidy experiments after the war were powerless to stay the downward tendency.

Up to 1891 Congress took no further action. In that year a bill introduced by Senator Frye, of Maine, was passed authorizing the post-master general to make contracts for not less than five years or more than ten years, with American citizens for carrying the mails in American steamships between the ports of the United States and foreign ports. Proposals must be invited by public advertisement three months before the letting of the contract. Vessels must be American built, owned and officered. The crew of a mail steamer must be at least one-fourth American for the first two years, one-third for the next three years, and one-half thereafter. Four classes of steamships were denominated. (1) Iron or steel screw steamships of not less than 8000 tons gross, and a speed of 20 knots an hour. Only first class steamers are eligible to the service to Great Britain. (2) Iron or steel steamships of not less than 5000 tons gross and a speed of 16 knots. (3) Iron or steel steamships of 2500 tons gross and 14 knots. (4) Iron, steel, or wooden steamships of 1500 tons gross and 12 knots. All except fourth class steamers are required

to be constructed under the superintendence of the Navy Department, so as to be convertible into naval cruisers. Maximum compensation for carrying the mails is fixed at \$4, \$2, \$1 and $\$2/3$ per mile for each of the four classes respectively. Deductions pro rata and penalties are imposed for failures or delays in service. The objects of this law, as stated by the promoters, are : First, to secure regular and quicker service to countries now reached. Second, to make new and direct commercial exchanges with countries not now reached. Third, to develop new and enlarge old markets in the interests of producers and consumers under the reciprocity treaties completed and under consideration. Fourth, to assist the promotion of a powerful naval reserve. Fifth, to establish a training school for American seamen.¹

Under the law six contracts have thus far been made by the Post Office department for the conveyance of the foreign mails, the last one, which is for the service to Australia, having gone into effect November 1, 1900. The contract stipulations with regard to voyages and compensation, together with the actual record of the services for the fiscal year ending June 30, 1901, are given in Table XXXVI.

The inherent evils of mail payments by fixed or mileage subsidies are strongly brought out in the table. The New York and Cuba mail received \$201,078 as subsidies in 1901 for carrying 1995 pounds of first class mail and 30,864 pounds of other articles,—a service worth \$2,266.68 at the regular sea postage rates. As the post is a certain index of the state of trade, we must conclude that the Act is not a success in the promotion

¹See 51st cong., 2d sess., H. R. no. 3273, (1890) : also post-master general's report, 1892.

TABLE XXXVI

Contract services	Contracting lines	Contract stipulations		
		Trips per year	Statute miles (in thous- ands)	Mileage subsidies (in 1000 dollars)
N. Y. to La Guaiva	Red D Line	36	81	81
N. Y. to Southampton	Intl. Navig. Co.	52	189	757
N. Y. to Tuxpam }	N. Y. C. Cuba Mail	52	130	130
N. Y. to Havana }		52	73	73
Boston and Phila. to Port Antonio, J. I.	Amer. Mail	78	185	123
San Francisco to Sydney, Australia	Oceanic	17	141	283
			801	1448

Actual service for fiscal year 1900-01 ¹

Contract services	Contracting lines	Actual service for fiscal year 1900-01 ¹		
		Mileage paid (in 1000 dollars)	Sea and inland postage on mails carried (in 1000 dollars)	Excess of payments over post- age (in 1000 dollars)
N. Y. to La Guaiva	Red D Line	56	25	30
N. Y. to Southampton	Intl. Navig. Co.	528	366	162
N. Y. to Tuxpam }	N. Y. C. Cuba Mail	201	5	195
N. Y. to Havana }				
Boston and Phila. to Port Antonio, J. I.	Amer. Mail	117	7	110
San Francisco to Sydney, Australia	Oceanic	133	32	100
		1036	437	599

¹ From report of the superintendent of foreign mails.NOTE—Rates are paid per *statute* mile instead of per *nautical* mile, as is usual on ocean mail routes.

of commerce on the last three lines at least. The provisions of the law had to be set aside in order to establish the European service with first class steamers. By a special act of Congress in 1891, the "New York" and "Paris" (now "Philadelphia"), first class steamers of English construction, were admitted to American registry on condition that two equally large and good vessels be built in America and put in service. The confident prediction, made by the supporters of the measure, that it would enable American steamshipping

within ten years to compete with English ships, has failed of realization.

The failure of the law of 1891 to "revive" American shipping gave the excuse for more subsidy legislation. With great arithmetical accuracy the commissioner of navigation in 1897 figured out that the mail subventions were inadequate to build up a great merchant marine. The only reason the mail subsidies had not created a great marine was that they were not large enough. Accordingly Senator Hanna introduced a bill, December 19, 1898, "To promote the commerce and increase the foreign trade of the United States, and to provide auxiliary cruisers, transports, and seamen for government use when necessary." It is to be noticed that the necessity for carrying mails was not used to cloak the real nature of the proposed payments. The preamble declared that "the profitable employment of the surplus productive power of the farms, factories, mines, forests, and fisheries of the United States imperatively demands the expansion of its foreign commerce." The bill provided a navigation bounty of 1.5 cents per gross ton for each hundred nautical miles sailed up to 1500 miles and 1 cent per gross ton for every additional hundred miles. In addition steamships were given extra speed and tonnage bounties per gross ton for each hundred miles sailed. The additional bounties ranged from one cent per gross ton for steamers of 1500 tons and 14 knots, to 3.2 cents for steamers over 10,000 tons and 23 knots. It was predicted, as usual, that this measure was the final solution of the shipping problem. It would give such an impetus to shipping in this country that by 1908 we would own eighty per cent of the ships engaged in our foreign trade. According to a most careful and

thorough study by Capt. W. W. Bates,¹ the annual payments under this bill would have been \$3,222,268 for 1900, and in 1908 if we should own eighty per cent. of the shipping in our foreign trade, they would have increased to \$48,374,015. This bill met with such strong opposition that it was dropped, and a substitute measure framed. Substitute measures were brought up the next year in both the House and the Senate of the 56th Congress. Again the opposition prevented the measure from coming to a vote.

At the opening of the first session of the 57th Congress, Senator Frye introduced a newly drafted measure. Title I, provides compensation for ocean mail steamships. Seven classes of steamers are denominated with compensation per gross ton per hundred miles sailed, as follows: Steamers of iron or steel over 10,000 gross tons and 20 knots, 2.7 cents; 19 to 20 knots, 2.5 cents; steamers over 5,000 gross tons and 18 knots, 2.3 cents; 17 to 18 knots, 2.1 cents; 16 to 17 knots, 1.9 cents; 15 to 16 knots, 1.7 cents; steamers over 2000 gross tons and 14 knots, 1.5 cents. Vessels receiving the mail subsidy are ineligible to any other subsidy. Title II, General Subsidy, provides a subsidy to all vessels, sail or steam, of American registry engaged in foreign trade. The rates per gross ton per 100 miles sailed are one cent, or in case the vessel is over 1000 tons, $1\frac{1}{4}$ cents. Title III, Deep-Sea fisheries, provides a bounty of \$2 per gross ton to vessels engaged in the deep-sea fisheries, and one dollar a month to every citizen of the United States engaged in such fisheries.

This bill was reported favorably by Mr. Frye from the committee on commerce, January 20, 1902, and was passed by the Senate after brief consideration on March

¹ See Congressional record, Feb. 17, 1899.

14, 1902. It was not brought up in the House, because the opposition was strong enough to make its passage very doubtful.

It is very suggestive to study the evolution of this bill. It started out as a pure subsidy measure with no relation to the ocean mail service, and no limits whatever to the amount of expenditure. By continued opposition the advocates of subsidy were compelled to introduce first a maximum of \$9,000,000 and to reduce the rates of subsidy and finally to fall back upon the old familiar plea of the necessity for ocean mail service. Meanwhile the continued and rapid advancement in ship-building and the increase in American capital invested in shipping under foreign flags makes a subsidy measure seem altogether superfluous. A reform of our obsolete shipping laws seems a much more rational project.

PART II

THEORY OF SUBSIDIES

THEORETICAL ARGUMENTS

Bounties vs. Protective Duties.—The opinion is generally held by our legislators and other social experimenters and even by economists that the theory of bounties or subsidies is identical with the theory of protection in general ;¹ that if a theoretical justification for a protective tariff can be established, it will apply equally well to the giving of direct bounties and *vice versa*. It is held that, theoretically, any governmental favor to industry, whether in the form of direct payments or protective duties enabling the favored industry to compete with foreign industries in the home market, may be considered as a bounty, because, it is argued, that the protective principle applies to both. This view is correct in one respect only,—the ends sought by the imposition of a protective duty and by the granting of a bounty are identical, viz., the encouragement of some home industry. The questions of administration are totally different as are also some of the practical effects of the two distinct forms of protection. Under a protective tariff the home market is at least partially reserved for the home producer, prices are raised and output is in consequence restricted. Under a bounty system there is no restriction of the home market, the bounty acts as a lowering of the costs

¹ See reports of the ship subsidy measures in Congress. Also the debates in the Senate in March, 1902. Also Palgrave's Dictionary of political economy, article on "Bounties."

of production, demand is consequently increased, and the output in proportion. It is at least probable that the effects of these two diametrically opposing tendencies will be quite unlike. It is therefore unwarrantable to discuss the question of bounties on the broad general lines of protection.

It seems rational from the consumers' view-point to assume that a bounty has more to justify it than has a protective tariff. The raising of prices and the cutting off consequently of a number of consumers from purchasing, as well as the curtailing of consumption by the economically stronger purchasers must necessarily subtract from the total quantity of social well-being. To the producer it makes no difference, of course, whether he receive money direct from the state or from his customers, provided the bounty is in proportion to his production, *i. e.*, specific. If the bounty is fixed there will be more inducement to combine to limit the supply. But though it makes no difference to the producer who pays him his profits, it does make a very great difference to him whether he sells much or little product. A protective duty so long as it is really protective curtails demand by increasing price; a bounty, on the contrary, if it act under conditions of free competition, will always extend demand by lowering price. The conditions of the home industry may be such that the same quantity of commodities would be produced in either case, but the presumption is in favor of larger output and accompanying economies of production in the case of a bounty-fed industry as compared with a tariff protected industry. Apart from questions of administration and public accounting, it seems reasonable that a bounty has more to commend it than any other form of pro-

tection.¹ At least it will be admitted that protective duties and bounties cannot be discussed on the same principles, although the benefits claimed for both are identical.

In a discussion of bounties, as of protection in general, care should be taken to distinguish between the arguments for temporary protection and those for a permanent protective system. The only scientific argument of an economic character for temporary protection is the so-called infant industry argument. The validity of this contention depends upon the possibility of hastening the industrial development of a nation in those lines where it has a relative advantage, so that the protected industries will sooner reach a position of equality or superiority compared with the same industries in other countries. It is claimed that there will be a gain in time, that the resources of a new country will be sooner exploited. Theoretically it is possible to conceive that in this way a country may make a net gain in its wealth. It is thought by some that protection in the United States has up to the present resulted beneficially by establishing industries earlier than would have been the case without protection. The statistics submitted to prove this assertion are not convincing. It can not be shown that the accelerated development in certain industries which undoubtedly took place as a result of protection, resulted in a net gain to the country. The unscientific and irrational character of our tariff legislation makes it highly improbable that the gains have equalled the costs.

¹ When the lower prices go to benefit foreign consumers in large part, bounties may be the most wasteful form of protection. The sugar bounties given by continental countries is a good example. This is discussed more fully below.

In any case the economic advantage of giving protection to a new industry on the above grounds depends upon the possibility of the protected industry becoming at least as productive as the like industry in other lands,—a possibility to be determined only by practical experience. Then political and ethical evils come up and render any possible economic benefits nugatory. This has occurred again and again even in those industries where conditions have seemed most favorable for the demonstration of the protective principle. Not to go outside the scope of this treatise, we have seen these evils exemplified in the case of the Cunard Line, the Royal West India Mail and other great British mail lines, as well as those of France, Italy, Austria, Japan and the United States. The judgment of legislators is not infallible, be their intentions never so good. They are prone to magnify the benefits of building up new industries and to exaggerate the difficulties in the way of private enterprise in establishing or extending them. They are much more likely to err in estimating the most productive employment of capital than are the capitalists and business undertakers if left free to direct their own investments. The public welfare is often times regarded as identical with the prosperity of individual industries or establishments. The protected industries come to have an over-powerful influence on legislation, even if the legislators be not actually corrupted as was the case in at least one ocean mail contract in this country. Although the men actively engaged in business are best able to estimate the conditions of their own line, they have a strong inclination to overestimate the importance of their personal welfare to the economic development of the country.

Added to the impossibility of determining what industries are worthy of protection during the first stages of development is the certainty that, if one industry is protected, many that do not need or do not deserve protection will demand and get it. The tariff laws of every protective country are full of such instances. In this way industries are supported at public expense simply because they can not otherwise exist. Adam Smith mentions this danger in speaking of the tonnage bounty of the white herring fishery in which it was "too common for vessels to fit out for the sole purpose of catching, not the fish, but the bounty."¹

Besides the above objections there is the danger that protection begun as a temporary policy will be continued long after it has proven itself futile or worse than unnecessary. Our own tariff laws afford numerous examples of both these kinds of protective duties. The bounties to shipping given by France, Italy, and Austria, as we have seen, are powerless to accomplish the ends for which they were originally intended. Yet they are continued year after year because the State "can't let go." The time required by a protected industry to gain a vested right in the funds of the treasury is very short and when once established such a claim is hard to shake.

It may be necessary for the state to interfere to prevent destructive competition from foreign establishments but the correct method is not necessarily either a protective tariff or a bounty. In fact it seems that protective duties are the worst possible means to choose in such a case, for it cuts off all foreign competition and makes combination among domestic producers both possible and probable as Mr. Havemeyer so emphatically stated in

¹ *Wealth of nations*, Book IV, Ch. V.

his testimony before the Industrial Commission in 1899.¹ Experience has shown that if a new country possesses superior advantages, capital from outside is ever likely to be attracted there in order to take advantage of the opportunities offered, rather than to attempt the destruction of newly founded industries by destructive competition from a distance. These considerations make it advisable to avoid granting bounties, even were it possible to show that, if properly administered, a net gain would result.

The critical objections of the free trader, though having an economic bearing, are primarily political and ethical in character. They come up like the lean kine in Pharaoh's dream and devour the fat, sleek, prosperity-promising kine of the protectionist. Nevertheless, there remains the theoretical possibility that state aid to young industries *may*, under certain conditions and with right direction, accelerate the increase in national wealth. Given these economic conditions, which are said to exist very often, and the only assumption necessary is a government by men of knowledge, honesty, and power.

But if the political and ethical evils of protection were not sufficient to condemn it, there are good reasons for thinking that the shipbuilding industry of the United States does not conform to the conditions of an infant industry. For several years steel plates, beams, and angles have been produced in the United States more cheaply than anywhere else, so that a bounty is scarcely needed to develop our infant steel industry. It does not necessarily follow from this that ships can be built in the United States more cheaply than in England or Germany. According to the commissioner of navigation,

¹ See Reports of the industrial commission, Vol. I. (Trusts and industrial combinations), pp. 133, 137, 214.

the steel and other material going into a steel steamship constitute only about one-fourth of the entire cost.¹ The costs of assembling and finishing are then by far the more important elements in the final cost of a ship.

We must not be too hasty in accepting these statements however, for they come from an ardent devotee of the subsidy policy. The present commissioner was formerly very much opposed to subsidies and furnished statistics in 1894,² proving conclusively that steel ships could be built as cheaply in the United States as in England. Since 1898, he has been engaged in figuring out the exact amount of subsidy necessary to overcome the higher costs of construction and navigation under the American flag. The estimates of these differences in costs have diminished in amount so enormously and so capriciously since the original estimate of 1898, that their accuracy is very doubtful. The first estimate must have been much too high; and what is to insure us that the present estimates are not equally incorrect? The comparisons of wages in different countries made by the commissioner are worthless, and the conclusions drawn from them are silly. No idea is given by these comparative tables regarding the varying conditions of employment, methods of payment, or efficiency of the workmen. We are gravely informed that day wages of workmen in shipbuilding are 50 to 100 per cent higher in America than in England, and from 40 to 60 per cent higher in England than in Germany. If these figures really proved what they are supposed to prove, (*i.e.*, higher labor cost in the United States), they would show the utter impossibility of England building ships. If there was any such enormous difference in real wages for

¹ Report of commissioner of navigation, 1900.

² Report of commissioner of navigation, 1894.

laborers of like efficiency, to attempt the equalizing of the differences by a bounty would be absurd. The fact that steel and iron construction of other kinds is done in America more cheaply as a rule than in other countries shows that the efficiency of the American workman in the steel industry more than makes up the difference in his wages. The higher cost of ship construction in this country is not due to the higher cost of labor per unit of product, except in those cases where employment is unsteady and the labor force must be maintained on less than full time work.

It is thought by many that these higher costs do not really exist. Our ship-builders have constructed several war vessels at prices below the bids made by the strongest English firms, and it is generally recognized that in the building of first class yachts and torpedo-boats American builders lead the world. This, however, does not prove our ability to construct merchant steamers as cheaply as the English. The commissioner of navigation in 1900 estimated the difference in favor of the English builder at 28 per cent.¹ The estimates vary a good deal, but it is admitted except by the most partisan anti-subsidy agitators that the English do build ships for the ocean transport more cheaply than we can. It would be strange if this were not the case. The American capitalist requires a higher rate of interest on his capital than that prevailing in England. This is of course due to the fact that capital is more productive in America. But in shipbuilding, conditions of the productivity of capital are reversed. Where an American shipyard turns out one steel vessel an English yard turns out a dozen, many of them on the same model. The English builder is able to use many identical parts,

¹Report, 1900, p. 32.

while the American builder is fortunate if he can use duplicate parts. It costs no more to superintend the building of a dozen ships than to superintend the building of one. Expensive machinery and highly paid skilled labor are constantly employed in English yards, while until recently the American yards experienced long periods of idleness, during which interest on capital, depreciation of plant, and wages of the necessary labor force consumed profits. The economies in the cost of building and of superintendence, due to organization of the industry on a large scale, give England its great advantage over the United States, and all other rivals. In the building of single war vessels, these economies vanish, for few duplicate parts can be used, the materials are of a special character, and the superintendence more costly. Some American yards have made a specialty of constructing the finest yachts, and therefore lead the world in this particular line of construction. It seems reasonably certain that with organization for large production, the American yards could build ships quite as cheaply as the English yards. A great extension of the demand for steamships is not probable. If we are to do shipbuilding on a grand scale in the United States, it must be at the expense of foreign yards. This does not necessarily mean that the English or German yards must go out of business. It simply means that there will be a readjustment of capital and labor such that the United States will have a larger share, relatively, in the shipbuilding industry of the world. This readjustment is certain to take place without any legislative interference. The countries that can build the cheapest will eventually do the greater part of the world's shipbuilding, even though bounties given by other countries disturb the normal

adjustment. Bounties, be they ever so high, can not prevent an approximate distribution of capital and labor according to natural resources, for a bounty does not act merely as an economy in costs of production. It always has a tendency to render the industry supported weaker and less progressive, so that natural advantages finally determine the localization of industry.

If the readjustment of labor and capital employed in shipbuilding is allowed to go on naturally, there will be no great disturbance of the industry in England or Germany. The American yards will not at once build more ships than English yards, but they will grow more rapidly than the yards in other countries. The economic question before the American people today is, "Will it pay to hasten this process of readjustment?" It is probable that capital will flow more rapidly into the American shipbuilding industry if bounties are granted by the United States Congress. English shipbuilders and capitalists have intimated their intention to take advantage of any alluring bounty which may be granted by this country. As payments to hasten a more productive employment of capital and labor, bounties might perhaps be economically beneficial. But no one can be sure of this, and the danger that the payments begun as a temporary policy may become permanent is great. There is also the danger that a portion at least of the bounty may be absorbed by a shipbuilding monopoly, without in the least benefiting shippers. In this case it can not be pleaded that capitalists are either ignorant of their own interests or too conservative. It is more than likely that the shipbuilders know more about their business than the senators and members of Congress. Steel shipbuilding is by no means so new or so undeveloped in the United States as is assumed. We rank

next to Great Britain both in tonnage owned and tonnage built when domestic shipping is included. It has been demonstrated that steel steamers can be built on the Great Lakes more cheaply than on the Clyde.¹ The industry is thoroughly organized on a large scale in the Lake region. There is no reasonable doubt but that the difficulties in the way of building ships on our Atlantic coast as cheaply as in Scotland will be overcome very soon if they have not been neutralized already.

Navigation.—We have thus far spoken of bounties to American shipbuilding. The bounties actually proposed have been for the navigation of ships. This appears at first to be something altogether different. The interests of owners and shipbuilders are directly opposed. The former want cheap ships; the latter want to sell ships as dearly as possible. In reality, all the ship subsidy measures recently proposed have been in effect bounties to our shipbuilding industry, because our owners would be compelled to buy their ships from American builders. A portion of the bounty has been reckoned as an equalization of the labor costs of running a ship under the American flag with the like costs of running under a foreign flag. Comparisons of the wage bills of an American steamer and of a Norwegian steamer of the same size show a great balance in favor of the latter, according to the reports of the commissioner of navigation. Besides, the food provided by an American vessel must be better and more abundant than that provided by the ships of other countries.² With the exception of steamers under mail contracts, Americans vessels can make up their crews regardless of nationality today. It is incredible then that an American ship-

¹ See Report of commissioner of navigation, 1903.

² See Reports of the commissioner of navigation.

master must pay so much more than a foreign master in wages.² In the days of the American fast sailing-ships, the higher wages and better food of the American sailors were more than counterbalanced by their greater efficiency and the superiority of the American ships, which could be managed by one-half the number of hands required on the clumsy square-rigged ships. American steamers to-day cost more and are no better than those of other countries, and American citizens are no better stokers and oilers than are Italians, Norwegians, and Portuguese, before they become naturalized. If American ships are really to compete in sea-transportation to-day, we must build better steamers more cheaply than any one else, and, if any unfavorable difference in costs of running American ships exists, it must be overcome either by paying the same scale of wages paid by our rivals, or by increasing the efficiency of labor on our ships. If bounties are to be paid so that American ship-owners can employ American labor to run their ships at greater cost relatively to the gross earnings of the vessels, they must be defended on other than economic grounds.

Arguments for permanent bounties.—As indicated above, temporary protection has a powerful tendency to become permanent. Naturally as the protective system is perpetuated, the arguments for temporary protection become inadequate and a new crop of theories spring up to protect the protective duties. Most of these theories are more curious than convincing. They have no discernible relation to either fact or reason and therefore deserve no consideration. Not all of them, however, are of a like degree of worthlessness. Cournot in

² In fact the wages paid are determined, not by the nationality, but by the port at which the men are hired.

1838 gave the first scientific analysis of the effects of taxes and bounties upon the national income.¹ He called a bounty a negative tax and applied the same mathematical formulae to both. He showed clearly by the use of the calculus that a bounty to a monopoly might cause a greater gain to consumers than the loss to the treasury. In this reasoning Cournot takes no account of the increase in demand resulting from a fall in price due to the bounty. Of course had he done so his argument for bounties would have been rendered so much the stronger. This omission is fatal to the argument for bounties and protective duties under conditions of free competition, which he advances later. (*Recherches*, chs. X–XII.) His statement is difficult to understand, and, as he had no conception of the theory of marginal utility, it is very incomplete. For these reasons we will not consider his analyses further, though for originality and keenness they deserve the highest praise.

In recent years a theory of permanent bounties has been worked out based on the difference between industries of decreasing returns and industries of increasing returns. It is maintained that a country may increase its wealth by encouraging industries of the latter class at the expense of industries of the former class. The most thorough and scientific discussion of the economic effects of taxes and bounties under different conditions of production is given by Professor Alfred Marshall.² He considers the cases of industries of constant, increasing, and decreasing costs, and elucidates the problems by means of diagrams, showing the effects

¹ *Recherches sur les principes mathématiques de la théorie des richesses* (1838), c. VI and chs. X–XII.

² *Principles of economics*, p. 528 ff.

of a tax and of a bounty upon what he calls consumers' rent or surplus. This surplus is represented in the diagrams by the area included between the demand curve, the Y ordinate of reference and the top of the parallelogram representing the market value of the given commodity. This surplus, psychologically considered, is the satisfaction enjoyed by the body of consumers in society by reason of their environment which enables them to buy the commodity at less sacrifice than they would be willing to make rather than forego the consumption of the commodity.

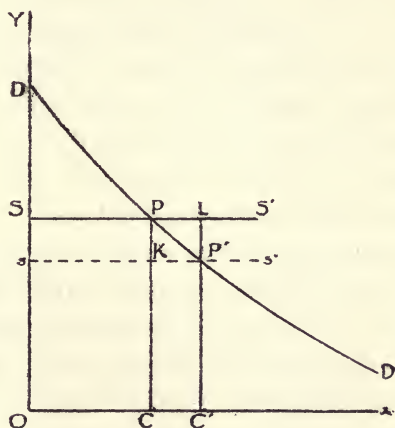


Fig. 1.

In the case of a commodity, the production of which obeys the law of constant returns so that the supply price is the same for all amounts produced, a bounty will cost the state more than the amount of surplus satisfaction gained by the consumers. This is most clearly shown by the diagram, Fig. 1. DD' is the demand curve, SS' is the supply curve, OC the amount of commodity and CP the price before the bounty is given. PK is the rate of the bounty, and the new supply curve, ss' , is

projected in the diagram by drawing it parallel to SS' and at the distance PK below. It is assumed of course that the bounty is specific, *i. e.*, it is given per unit of commodity produced. It is also assumed that the bounty acts merely as a reduction in the costs of production and that this reduction of costs is handed on to the consumers in the shape of reduced price. Where the new supply curve cuts the demand curve will be the new point of maximum satisfaction. The perpendicular $P'C'$ let fall upon Ox from this point represents the new price, and OC' represents the amount of commodity produced after the bounty is given. At the rate PK or LP' on an amount OC' of commodity, the total amount of the bounty is the parallelogram $SsLP'$. The amount added to the consumers' surplus is the area $SPP's$, which is less than the bounty by the area PLP' . It would therefore be unwise to grant a bounty to an industry of constant costs under normal conditions.

The same diagram serves to illustrate the working of a tax. Let ss' be the old demand curve and $P'L$ the rate of the tax. The new demand curve will be at the distance $P'L$ above ss' and parallel to it. OC will be the amount of commodity produced and CP the price under the new conditions. The gross amount of the tax is given by the parallelogram $SsKP$. The loss in consumers' surplus is the area $SsPP'$, which is greater than the receipts from the tax by the area PKP' . In an industry of constant returns then, the gross receipts from a tax are always less than the loss of consumers' surplus.

Professor Marshall points out that the area PKP' is small or great according as the demand curve is steep or gradual at this place. "Thus it is smallest for those commodities the demand for which is most inelastic, that is, for necessities. If therefore a given aggregate

taxation has to be levied ruthlessly from any class it will cause less loss of consumers' surplus if levied on necessities than if levied on comforts."¹

The case of an industry of increasing costs is some-

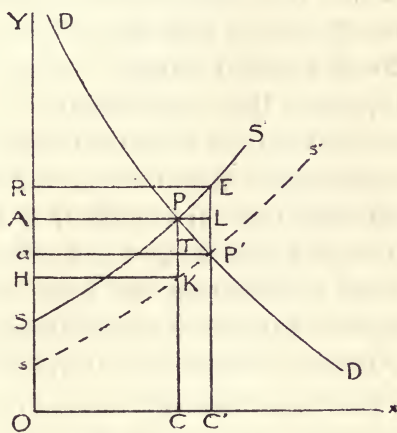


Fig. 2.

what more complicated. In Figure 2, SS' represents the old supply curve, and the rest of the nomenclature is as in Fig. 1. To project the new supply curve measure off on PC the distance PK equal to the rate of the bounty given. Through the point K draw ss' parallel to SS' . Where the new supply curve ss' cuts DD' is the new point of equilibrium. The total amount of the bounty in this case is represented by the area $REaP'$, for aP' is equal to the amount of commodity produced under the new conditions and $P'E$ is the rate of the bounty. The amount added to the consumers' surplus is $APP'a$, which in this case is less than the amount of the bounty by the area $RAPP'E$.

Translated into ordinary language this means that a bounty to a commodity which obeys the law of diminish-

¹ Principles, p. 528, note.

ing returns or increasing costs will, by lowering the price, increase the demand and consequently extend the margin of cultivation to places and conditions in which the gross expenses of production are greater than before. Thus it will lower the price to the consumer and increase consumers' surplus less than if the commodity obeyed the law of constant return. As we have seen the bounty is greater than the increase in consumers' surplus under conditions of constant return, it is therefore much greater under conditions of diminishing return. In both cases thus far treated, it is to be noted that the steeper the demand curve is inclined the more closely the area representing the total amount of the bounty corresponds to the area representing the addition to consumers' surplus. From this it appears that bounties on the production of necessities are less wasteful than on articles of comfort or luxury, other things being equal.

A tax levied on a commodity which obeys the law of increasing costs may subtract a smaller amount from consumers' surplus than the gross receipts of the tax. This may be shown by Fig. 2 as follows. Let SS' be the old supply curve. To project the new supply curve prolong the perpendicular CP' and lay off the distance $P'E$ equal to the rate of the tax. Through the point E draw the new supply curve SS' , parallel to the old. Where SS' cuts DD' is the new point of equilibrium. The area $AHKP$ is the total amount of the tax, because KP is equal to the rate of the tax and HK is equal to the quantity of the commodity. The loss in consumers' surplus is $APP'a$. The gross receipts from the tax will be greater or less than the loss of consumers' surplus as $aHKT$ is greater or less than the area $P'TP'$. In the diagram it is obviously much greater; but the more nearly horizontal the supply curve is, that is, the more

ers' surplus is the area $APP'a$. Whether the gain in consumers' surplus is greater or less than the cost of the bounty depends on whether the area $ARBP$ is greater or less than the area BEP' . It is obvious that the more nearly the supply curve approaches the horizontal, the smaller becomes the former area, until it is smaller than BEP' and finally vanishes when conditions of constant costs are reached.

That is to say, a bounty on a commodity the production of which is cheapened with increased output will cause a fall in price greater than the rate of the bounty, and, if the economies of production attending increase of output are very great, the addition to consumers' surplus may be greater than the cost of the bounty.

The effect of a tax in this case, is of course to raise the price more than the rate of the tax. In the graph, the area $AHKP$ is the gross amount of the tax, while the loss of consumers' surplus is the area $APP'a$, which is greater than the tax by the area $HKPP'a$.

From the foregoing discussions and representations may be built up an economic theory for a permanent system of bounties on production. Professor Marshall says,¹ "In the case of commodities in regard to which the law of increasing returns acts at all sharply, or in other words, for which the normal supply price diminishes rapidly as the amount produced increases, the direct expense of a bounty sufficient to call forth a greatly increased supply at a much lower price, would be much less than the consequent increase of consumers' surplus. And if a general agreement could be obtained among consumers, terms might be arranged which would make such action amply remunerative to the producers, at the

¹Principles, p. 533.

same time that they left a large balance of advantage to the consumers."

Except that the above passage is rather too strong it is logically faultless. Professor Marshall goes on to say that a community could benefit itself economically by levying a tax upon incomes, or upon the production of goods which obeys the law of diminishing return, and devoting the proceeds to a bounty on production in which the law of increasing returns acts sharply. He mentions the practical, political and ethical objections and is careful to show that a tax upon agricultural products is not alone a question of gathering an income for the state at the expense of the consumers' surplus. The tax must be paid in the first instance out of the common product, and the effect of a tax upon producers and production must be taken into account just as much as the effect upon consumers and consumption. A tax "cuts like a two-edged sword" both consumer and producer. The loss to the community is always greater than the gross amount of the tax collected, even in the most favorable circumstances. Professor Marshall shows this by reference to a diagram representing the effects of a tax in case of an industry of increasing costs. If we assume that the technique and organization in agriculture and subsidiary industries remain the same for all amounts of product produced, then we may take the general supply curve to be a "particular costs" curve, *i. e.*, a curve representing the costs of production to the individual producers arranged in the order of the amount of differential advantage enjoyed by each.¹ Referring to Fig. 2, the supply curve ss' may be taken then as the particular costs curve before the tax is levied. Then $aP's$ is the amount of the producers' surplus or rent.

¹ Principles, page 521, note.

After the imposition of the tax the producers' rent is the area APS. If the tax is specific the curve SS' will be parallel to SS' and the area APS will be equal to the area HKs. In this case the loss to the producers is equal to the area a P'KH, while the loss to the consumers is the area APP'a. The amount of the tax is APKH, which is smaller than the loss inflicted on producers and consumers, by the area PP'K. This is a rather laborious way of proving the very obvious fact that a community can not tax itself into opulence.

Professor Marshall also calls attention to the fact that the subjective value of money varies according to supply, like that of commodities, so that, "if the producers were as a class very much poorer than the consumers, the aggregate satisfaction might be increased by stinting the supply when it would cause a great rise in demand price (*i. e.*, when the demand is inelastic); and that if the consumers were as a class much poorer than the producers, the aggregate satisfaction might be increased by extending the production beyond the equilibrium amount and selling the commodity at a loss." He adds, "It is in fact only a special case of the broad proposition that the aggregate satisfaction can *prima facie* be increased by the distribution, whether voluntary or compulsorily, of some of the property of the rich among the poor."¹ He also considers that a society may profitably divert the expenditure of its members from commodities which obey the law of increasing cost to those which obey the law of decreasing cost. Aside from the practical difficulties, and the ethical disadvantages, he concludes, "that it might even be for the advantage of the community that the government should levy taxes on commodities which obey the law of

¹ Principles, p. 532.

diminishing returns, and devote part of the proceeds to bounties on commodities which obey the law of increasing returns.”¹

He hastens to add that all this does not afford a valid ground for governmental interference, but merely shows what remains to be done “by a careful collection of the statistics of demand and supply, and a scientific interpretation of their results, in order to discover what are the limits of the work that society can with advantage do towards turning the economic actions of individuals into channels in which they will add the most to the sum total of happiness.”²

The veneration paid to mathematics as *the* exact science may lead some to suppose that the application of mathematical formulæ to economic problems means the solution of all vexed questions. It may be worth while to observe that, so far as economics is concerned, mathematics is not a science at all, but a method; and no matter how exact mathematics may be in and of itself, the exactness of the mathematical results in economics is conditioned by the material more than the method. Whether the use of mathematics to solve economic problems is a matter to cause rejoicing or sorrowing depends upon the method of applying the

¹ Principles, p. 536.

² For the contrary view, see Nicholson's Principles, Vol. I, pp. 231-4. He says, “To spend a given sum of money, so as to produce the greatest happiness to the spender, cannot properly be called economic expenditure; this refers to value received for value given and not to the happiness which may follow on the completion of the bargain. Still less can we advance from the individual to the community and say that ‘the aim of economic distribution is to apportion the produce among the members of the community so that the greatest amount of utility or satisfaction may be derived from it.’” If value has nothing to do with happiness, then indeed is economics a dismal science and the search after distributive justice is vain.

method, for the more exact the reasoning the more dangerous it becomes if used carelessly. The men who have contributed most to render political economy odious have been the most exact and logical thinkers who have reasoned from wrong premises.

Professor Marshall has pointed out some of the difficulties in the way of applying the graphic method of analysis in these cases. There are yet other difficulties. It is not sufficient to show that an industry is one of decreasing costs in order to enter it as eligible for a bounty. The costs, or supply, curve must show a certain *degree* of steepness. No means has yet been suggested by which the actual shape of such a curve can be foretold. It is more than doubtful if statistics can ever be collected which will enable us to say with assurance that a bounty to any particular industry would result in a net gain to society.¹ It is even more difficult to estimate the course of demand. No amount of statistics of consumption will enable one to guess what will take place when the normal conditions are disturbed by a bounty. Leaving out of account the political and ethical objections, it does not seem possible to make any practical application of this very scientific theory of bounties.

Besides the practical objections mentioned, there seems to be a flaw in the theory itself. Its validity rests entirely upon the possibility of measuring accurately that rather confusing entity, consumers' surplus. I do not believe this is possible, even within the narrow

¹ The off-hand assumption that extractive industries are always industries of increasing costs, while manufacturing is always attended by decreasing costs, is not always true. Every industry if carried far enough reaches the stage of increasing costs. See Marshall, pp. 393-400; Nicholson's *Principles*, Vol. I, pp. 151-174.

limits of a change in prices due to a tax or a bounty.¹ All will agree that we receive a surplus of satisfaction by reason of our conjuncture, but it is not possible to measure this. A protective system based upon hypothetical additions to consumers' surplus would be fantastic in the extreme. Such a system would be obliged to take into consideration not merely groups of industries, but individual distribution as well. The "faculty theory" bears the identical relation to distribution of the benefits of a bounty as to distribution of the burdens of a tax.²

Professor Marshall makes the very improbable, in fact the impossible assumption that the consumers receiving the benefits of the bounty will belong in every instance to the community paying its costs. Unless a prohibitive duty is laid on export the lowered price will cause some of the commodity to be exported, and the consumers' surplus on this portion will certainly not go to offset the cost of the bounty. A bounty does not act like a reduction of normal costs due to improvements in production. Such improvements benefit all consumers alike, without imposing a sacrifice on anyone; a bounty on the contrary must be paid by one community and the benefits will be reaped, at least in part, by other communities. This very obvious fact renders the collection of statistical data superfluous; for no protectionist will assert that it makes no difference what consumers or what communities gain the benefits of the bounties so long as somewhere more wants are satisfied and hearts, foreign or domestic, are made glad.

For reasons above made clear, I do not grant the ad-

¹ See Nicholson's *Principles*, Vol. I, p. 57 ff.

² Space does not permit a fuller discussion of this important principle.

visability of giving bounties to American shipping as a permanent policy. If these grounds were not sufficient, it could be shown that the possibility of increasing the demand for steamships by lowering the price by means of a bounty, is not enormous. There is no great popular demand for steamships, though the utilities of a steamer are of course consumed by all those who travel or send freight by it. The technique of the sea transport industry is relatively so highly developed, and the supply of steamers at present so greatly exceeds the number necessary to carry most economically the seaborne commerce of the world, that it is preposterous to suppose that a bounty to our shipping would at once greatly increase the demand and, as a result, increase shipbuilding in the United States. One freighter of 10,000 tons could easily do the freighting for a half million people, and a fleet of forty "Deutschlands" could carry on the passenger and express business of the world. The economies due to large production are not to be underestimated in the shipbuilding industry; and, on the contrary, the possibilities of carrying on large production are not to be over-estimated. The argument for encouraging an industry of increasing return, if it have any applicability at all, is not applicable in this case. It is impossible to have two Clydes at the same time. The increase of ship-building on the Delaware must be attended by a corresponding relative decrease somewhere else, because the demand for ocean steamships is rather inelastic.

As to bounties on the navigation of ships the case is slightly different. It is possible to think of a bounty so increasing the activity of shipping by lowering freight rates that the invested capital would be much more economically employed. This more constant employ-

ment of capital, coupled with better organization in the transport industry, *might* result in a benefit to humanity greater than the cost of the bounty. The chance that that particular portion of humanity paying the bounty will receive a surplus of satisfaction is rather slender,—microscopic in fact, especially since the innumerable protective duties and other obstacles to exchanges make the demand for ocean transportation inelastic rather than elastic, as it might be under free trade.

In so far as bounties to American shipping would act merely to equalize the greater costs of building and running American ships, they would be utterly lost, for freight rates could not be lowered so that neither we nor the rest of the world would receive any benefit. This objection of course holds only in case higher costs are the result of a relatively disadvantageous economic situation. Comparative costs, at present unfavorable to us, will probably be turned in our favor. The bounties paid by France and Austria certainly go in large part to support industries that have no right to exist. The bounties are lost with no promise of ever being regained.

Again if bounties to shipping act so as to increase the number of ships beyond the tonnage necessary to move the sea-borne commerce of the world most economically, they are in so far worse than wasted. No supposition could be more erroneous than that an increase in the number of ships will lower freight rates because of the greater competition. Our experience with competing lines of railroad should have taught us wisdom in this regard. Every ship represents a certain amount of capital upon which interest at the normal rate must be reckoned. Every superfluous ship is a pauper which must be supported at the expense of active shipping,—indeed every day's idleness, every unused compartment of a ship in

service represents unused capital which eats up the earnings of active capital. Now the bounties which certain patriotic citizens propose to give to American shipping are to be given for the purpose of increasing the total number of ships, though it is well known that rational economics demand, not more ships, but better organization in the sea-transportation business. The bounties given by other nations have had this same object in view, and if they have not always operated actually to increase tonnage under the national flag, they have most assuredly kept the national marine from declining so rapidly as it otherwise would have done, and have thus acted indirectly to increase tonnage beyond the point of greatest economy. This has been especially pernicious in practice because the effect has been generally to keep inefficient tonnage in service, or to build new tonnage which is not by any means best adapted to meet the demand for freight and passenger transportation most economically.

Bounties on Export—Bounties on export are of some practical importance at present, because of the propositions to give a bounty on agricultural exports in aid of our shipping. Adam Smith¹ and David Ricardo² discussed the bounties on the export of corn, and though their assumptions and reasoning are not always correct, their conclusions that the bounties decreased the wealth of the nation giving them are correct. It will generally be admitted that bounties on export have little to recommend and very much to condemn them, and of all export bounties those on agricultural products are the worst. After the rather full discussion of the economic arguments for bounties on production, it is scarcely necessary

¹ *Wealth of nations*, Book IV, ch. V.

² *Principles of political economy*, ch. XXII.

here to consider the arguments advanced in favor of the export bounties, for it is obvious that, if bounties on production have no economic ground to stand on, then the export bounties are left suspended in the air.

It is interesting to notice that the tariff duties in the United States, Germany, Austria, and France operate in many cases exactly as premiums on export. The home market is protected against foreign imports; the domestic producers find it to their individual profit to combine to keep prices up in their home market, a very little below the point of profitable import from abroad, and to dump the so-called "surplus" production on the foreign markets at any obtainable price. The argument is advanced that in this way the market is greatly extended leading to such marvellous economies in production that consumers in the producing countries can buy the protected commodity cheaper than they otherwise could, even though they must pay a monopoly revenue price sufficient to pay all fixed charges and perhaps some of the variable costs on the product exported. Now it is perfectly evident that the price in the home market must, under these circumstances, be a very long way from the point of maximum satisfaction to the consumers under the given organization and technique of the protected industry, while foreign purchasers, or rather foreign protective tariffs are absorbing the hidden indirect bounties which are being squeezed from the domestic consumers. That the domestic consumers are enjoying lower prices than would be the case were the protective duties removed and the foreign market (let us assume) entirely lost, is not likely; for the prices in the home market are held as near as may be to the point of highest monopoly revenue by the protected trusts. *These prices are often sufficient to pay all fixed costs, the vari-*

able costs on the product consumed at home, and, in some cases, part of the variable costs of the exported products. The export trade of the United States iron and steel industries is looked upon as a mere safety valve to relieve the pressure of over-production.¹ Our export of manufactured articles is insignificant compared to the enormous domestic consumption. It is not probable that to cut off this comparatively insignificant foreign export will necessitate the raising of prices to domestic consumers. The fixed costs will not be increased by a curtailing of production, and these costs are already paid by purchasers in the home market. If prices were brought down to competitive figures in the home market, it is probable that total consumption, instead of decreasing, would actually increase so that the variable costs per unit of commodity would be diminished. There can not be much doubt that the removal of these virtual bounties on export would result in a great economic gain to the community. It would not benefit the protected industries, however, and the duties are likely to remain for a long time to come.

At this point the protectionist changes his line of argument and tells us that to take away the protective duties will enable foreigners to come in and undersell our manufacturers in the home market. Obviously this statement and the one just discussed are mutually annihilatory. But such abyssmal breaks in reasoning are not uncommon in tariff discussions. As we are not discussing the general theory of protective duties, but only the special case where they act as hidden indirect boun-

¹ See testimony of Chas. M. Schwab, in *Reports of industrial commission*, vol. XIII, pp. 464 ff. Also testimony of H. W. Lamb in same volume.

ties, we will not follow the Fabian protectionist, but leave him in possession of this portion of his field.¹

¹The protectionist regards the free-trader as a creature devoid of patriotism,—a dreaming philosopher filled with visions of a great international state founded on the idea of a universal brotherhood of man. It may be worth while to note that Adam Smith and all his free-trade followers to the present day were and are intensely patriotic and remarkably devoid of any sickly sentimentalism as to the universal brotherhood of man. Further, no free-trade economist has ever proposed to promote general human happiness indiscriminately by giving part of his country's wealth to the consumers of other countries. This is distinctly a protectionist doctrine. The conflict between protectionism and free-trade is not and never has been a conflict of nationalism against internationalism. The free-trader thinks to increase the wealth and importance of his country by giving industry a free course. The protectionist thinks to accelerate progress by stimulating some industries at the expense of others. If accelerated progress of protected industries is the chief end and aim of national existence then the protective theory is correct and it is even possible that this ideal has at times been partially realized in practice. But if national well-being is the goal of national life, then the protectionist doctrine is a most dismal failure. Protective duties at best can increase the national wealth only at the expense of the national well-being, and bounties distribute a part of both national wealth and national well-being among foreign peoples. The protectionist's intense nationalism expresses itself in a systematic forcing of his countrymen to do a larger share of the world's production for a smaller return than economic law would assign to them. The taking of the burdens of labor from the shoulders of foreign peoples and forcing goods upon them at prices below cost, this is the true international philanthropism. Establishing industries for the sake of being industrious appears to the free-trader a waste of national resources and a burden on the people. Business for business' sake is too subtle a proposition for him to wrestle with.

It is perhaps worth suggesting that, if every nation should attempt to enrich itself by taxing agriculture and subsidizing manufacture, the result would be a relative over-production in manufacture and under-production in agriculture, the effects of which can not be foreseen. Commercial and industrial crises would undoubtedly work most disastrously until a new norm in industry was established. Of course these disturbances would lead to changes in the bounties so that the final outcome can not be even guessed at.

POPULAR ARGUMENTS FOR SUBSIDY

Introductory.—The practical statesman troubles himself little about pure economic theory. He would scarcely understand Professor Marshall's treatment, purporting to show the possible economic benefit of bounties. From the standpoint of practical politics it is not worth while to discuss a scheme for bounties which is based on mathematics higher than simple arithmetic. The chances that Professor Marshall's graphic representations will ever be made a plank in a political platform declaring for a bounty system are exceedingly slight. It would be difficult to arouse great enthusiasm among the farmers for a scheme proposing to lay upon agriculture the burden of all taxation, including a nice sum to be paid to the manufacturers as a bounty. We may rest assured that the graphic method will never be used to open the pockets of the taxpayers. The mathematics used to demonstrate the necessity for a bounty to shipping is of a much simpler sort. For example, it is said that England gave subsidies and her commerce and shipping increased. More recently Germany gave subsidies and since then her commerce and shipping have increased. Ergo, subsidies are beneficial and if we would not be left behind, we must give subsidies. By the same sort of mental process, which is sometimes called reasoning, the simple minded savage persuades himself that comets and shooting stars exercise a baneful influence over the affairs of men. The statistics of commerce and merchant tonnage, which are used so freely to show the necessity for voting a subsidy, are entirely devoid of significance, and the childish confidence of some of our oldest politicians in these meaningless columns of figures is discouraging.

The statistics of the commerce and shipping of France, Italy, and Austria, quoted by the opposition to show the harmfulness of bounties, are by no means so worthless, for they show that, at least in some cases, bounties do not lead to an expansion in commerce and shipping. But to conclude that a bounty to shipping in the United States would act like a bounty to shipping in France is the reverse of reasonable. It is quite probable that this country would increase its shipping by means of bounties ; but, as has been repeatedly pointed out, the enlarging of an industry by government aid does not mean an economic gain, much less an ethical gain.

Although the popular arguments for bounties are based on meaningless statistics, and are rather oratorical than logical, it seems necessary to consider some of the assertions most frequently made and most likely to mislead.

Saving of Freight Charges.—The subsidy advocates assert that the vast sums paid to foreign shipowners as freight charges will be saved to the country as a result of the bounties. This they regard as their most telling "economic" argument for the subsidies. Mr. Charles H. Cramp, of the Cramp shipbuilding firm, has used this argument with peculiar enthusiasm and energy.¹ He informs us that we must pay the freights both ways, if we employ foreign shipowners to carry our exports and imports. Continuing he says : " No fine spun theory of cloistered or collegiate doctrinaire can wipe out these facts." We cannot but feel a passing qualm of pity for the miserable doctrinaire, culpable though he may be. It seems needlessly harsh to crush him so remorselessly with such very wonderful facts. The only possible

¹ " American shipping," by C. H. Cramp in *Iron Age*, Apr. 15, '97, p. 19.

criticism of these facts is that they are not true. It is only Mr. Cramp's authority as a business man which makes it needful to consider his assertions here. He asserts positively that no nation can own ships unless it builds them. He tells us that the United States is the most profitable dependency of Great Britain. The position of India is pitiable; that of the United States is contemptible. English prosperity means the misery of every one else. We pay a tribute of \$300,000,000 every year, and never get any of it back except by borrowing it on bonds. There is thus a ceaseless ebb of gold from this country to England. This is a fair example of the business man's economic theory.

Nor do our protectionist statesmen get much higher than these crude misconceptions of what really takes place in the commercial world. Mr. James G. Blaine may be fairly said to have represented the best and most intelligent views of the protectionists. In a speech delivered before the New York Chamber of Commerce in 1881, he said, "We pay \$110,000,000 per annum for the carrying of products between this and foreign countries. Think of it! \$110,000,000 in gold coin has gone out of the commerce of this country into the commerce of other countries. Can New York stand this? Can this great port stand such a loss as this, with all her unbounded advantages of position and of resources, and with the magnificent continental commerce that stands behind her? I say, gentlemen, that if the carrying trade of this country, aggregating \$110,000,000, is permanently turned from us, then the question of specie payments becomes one of far more complicated difficulty than it is today, and the only way to make it easier of solution is to turn the current of gold from those coffers into our own."

The flow of gold from our coffers into those of foreign countries has ever had a most distressing effect upon our mercantile economists, whether they have been in the shipbuilding business, ocean transportation business, or in the United States Senate. This appalling state of flux has inspired full many a sublime flight of oratory; it has been the motive of much laborious "statistical" work. We might ask if gold really does flow out of this country, or why it should do so simply because foreign ships do out freighting for us. We might inquire what dreadful evil will befall us if we shall pay our freight bills in gold. Since Mr. Blaine's speech our foreign commerce has gone on increasing enormously, while our merchant marine engaged in foreign trade has continued to decrease. Yet the country has not been ruined, nor have specie payments been suspended. Even the great port of New York has borne up remarkably well under the terrific drain of gold which according to Mr. Cramp is increased to \$300,000,000 per annum.

What are the grounds for asserting that we must pay the freights both ways as a penalty for our inability to run ships under the American flag? The comprehension of this subtle theory is strictly limited to those men in the shipping industry and some few "practical statesmen." There is not even the most superficial excuse for such a statement. If our merchants were the only merchants in the world, then it might be said that they must, in the first instance, pay all freights. The absurdity of assuming that we must deduct freights from the value of our exports and add freights to the cost of our imports, is too evident to need discussion. Professor Cairnes¹ shows that of two countries carrying on ex-

¹Some leading principles of political economy newly expounded, (ed. 1876) p. 344.

changes, the one that has the greater natural resources exchanges at an advantage because of the greater productivity of its labor and capital. The cost (meaning the subjective cost) of 1000 units of value is less in the United States than the cost of a like number of units of value in England. He argues, therefore, that the United States derives the greater benefit from exchanging. Taking this view we may reasonably say that England in reality pays the freight both ways, or, at least, the greater part of them. Whoever pays the freights, the mere fact that commerce between the United States and Great Britain is carried on and is steadily increasing, shows, beyond the possibility of contradiction, that the commerce is profitable to both countries. If the statements of Mr. Cramp and Mr. Blaine really required refutation the statistics of commerce would furnish a sufficient rejoinder.

It must be evident to anyone who understands the first elementary principles of international trade, that we pay no more than our proper share of freight charges. But, Mr. Blaine and his followers tell us, the amount we do pay goes into the hands of foreigners and is "diverted from our commerce." It is forever lost to us, unless we borrow it back on bonds. Here again the vacuity of the argument baffles the economist. Furthermore it is not and never has been true that the entire amount paid to foreign steamship lines in freights goes out of the country. A large percentage of the tonnage carrying our foreign commerce is owned by American capital though sailing under foreign flags. The profits and dividends on capital remain in this country, which fact should soothe the sorrow of those who mourn for the gold that flows out of our coffers. And if we pay Englishmen, Germans, and Norwegians ever so many millions of

dollars for doing services which would cost us a great deal more if we performed them ourselves, there is nothing but economic gain to us in the transaction. Why should we remove capital and labor from other pursuits and take over the carrying trade? In order to keep this alleged 110 or 300 million dollars at home? But why should we work to keep this particular sum at home rather than the amount we pay for English worsteds, or French laces? To name the enormous amounts we might save by doing our own transportation does not prove our economic degradation. It must be shown how many millions we must pay out in order to save these \$300,000,000 per annum before we can estimate the wisdom of engaging in the international freighting business.

Let us suppose that we pay foreign ship owners \$150,000,000 per annum for carrying our freights. If we decide to dispense with the services of foreign ships, and do our own freighting with American built ships, owned by American capital and manned by American citizens as it is proposed, it means that we must divert capital from other lines of industry to the amount of at least a billion and a half of dollars and invest it in shipping. If this capital invested in other enterprises would earn \$180,000,000 per annum, plainly the change to the shipping industry would result in a direct and immediate annual loss of \$30,000,000 in the total social product, owing to the decreased productivity of capital and labor. This direct loss does not by any means measure the whole economic loss of such a change in industry. Capital and labor will not engage in the carrying trade unless they receive remuneration equal to what they receive in other industries in our country. They must offer services at least as cheaply as foreign rivals. Under the assumed conditions, the only possible way to save

the amount paid to foreigners in freights is by means of a bounty of \$30,000,000 per annum. This loss would be augmented by the cost of collecting the tax and administering the bounty, besides the losses due to the disturbance of other industries by the tax and the rapid and wasteful change to another industry. Of course the change could not take place immediately, but if the relative productivity of capital and labor in the United States and in foreign countries remained unchanged during the transition, the reasoning would still hold good.

It may be objected that the conditions imposed are contrary to fact. It is true that the figures are not "statistical", but I have rather underrated than over-rated the difference in productivity of capital and labor engaged in international shipping compared with their productivity in American industries, up to very recent times at least. I have merely attempted to show the absurdity of advocating bounties to American shipping on the ground that by so doing we will save the amounts we pay to foreigners, regardless of the actual conditions in the sea-transportation business. It seems pretty clear that this would be the most expensive economy that could be introduced. The profitableness to the nation of going into the freighting business depends upon the result of complex kinetic changes: either interest and wages in this country must fall to the level of interest and wages in sea transportation, or the productivity of capital and labor employed in American shipping must be increased so as to give a margin to shippers in the form of lower freight rates, after paying the higher wages and interest charges. Interest rates in the United States have fallen about to the level earned in the ocean-transportation business, as is demonstrated by the fact that American capital is more and more seeking investments

in steamships. American capitalists own more ocean-going steam tonnage to-day than those of any other country except Great Britain. If our navigation laws were revised after the fashion of the German or British laws, doubtless our marine engaged in foreign trade would be increased very greatly by the addition of the large number of foreign-built steamers owned by American capital, but excluded by our laws from American registry. If it is so very desirable that the ships that carry our commerce should also carry our flag it would seem a very sensible move to repeal this foolish prohibition.

In any case there is no sense whatever in the hysterical demand that we must own the ships that carry our commerce in order to keep the amount we pay in freights within our own national boundaries. The mystery and romance of the sea seem to have a most confusing effect upon the rational faculties of some statesmen. They associate the money earned by a steanship with the fabulous wealth of the Spanish main. There is nothing extraordinarily attractive or remunerative about the sea-freighting business. It would be very uneconomical to lure or drive capital and labor into this business if they are earning as much or more in other lines. If Mr. Blaine had been advised to cut down his household expenses by discharging his janitor and employing his own energies in the lucrative industries of carrying coal, cleaning the furnace, sweeping the cellar, etc., thus saving the relatively large sum of \$400 in gold every year, and at the same time building up a flourishing home industry, he would have been amazed—perhaps displeased. Yet such a suggestion is scarcely more rid-

iculous than the eloquent appeal for a merchant marine made by Mr. Blaine in 1881.

All advocates of subsidies lay great emphasis upon the alleged fact that freights are paid in gold, thus making a constant drain upon the supply in this country. It is the old familiar mercantilist doctrine that rises eternally new. We do not, as a matter of fact, pay freights in gold unless it is cheaper to do so. It is true that the ship owner receives his freight money in gold or its equivalent, but the gold paid to him is purchased in the cheapest market. There is no magic about ocean transportation charges. They act just like other values in balancing up international exchanges. Whether or not we export gold to England is determined chiefly by facts wholly independent of who carries the freights. It is no more true to say that we pay freights in gold, than to say that we pay for English clothing in gold. This frightful "drain of gold from our coffers" into the pockets of the English and other foreign ship-owners exists only in the vivid imaginations of the apostles of shipping subsidies.

Does trade follow the flag?—It has been stated above that the extension of our commerce by means of a bounty is possible only in case the bounty acts so as to reduce freight rates. The advocates of ship subsidies do not usually mention the possibility of a diminution of freight rates. They rely upon the flag to extend commerce. "Trade follows the flag" is at once watchword and argument with them. Statistical support for this assertion is furnished in copious abundance, but like all the statistics thus far examined the figures are meaningless. It is shown, for instance, that the commerce of Germany with the Far East has increased since the North German Lloyd contract with the gov-

ernment was made. It is complacently assumed that the increase is due to the subvention, and that the proposed subsidies will act in the same way. The fact that German commerce increased just as rapidly before as after the granting of the subvention, is not mentioned.

The subsidy agitators see in every foreign ship-owner or master a deadly enemy who is seeking to promote the commerce of his own native land at the expense of every other land. Now it is a fact of no small economic importance, that a foreign ship-owner is always willing to carry American goods for a consideration, no matter how heartily he may hate Americans. Sea transportation is a business, and not a religious or sentimental activity. Obviously this whole argument for national ships becomes a *reductio ad absurdum*, for how shall maritime nations promote their commerce without at the same time promoting the commerce of those countries with which they trade ! It may be asserted that the nation without a merchant marine is excluded from intercourse with undeveloped and colonial countries. But the undertakers of all nations are watching keenly for every opportunity to do profitable business. Our commerce with the Levant has increased so greatly in recent years that the Hamburg-American Line has found it advantageous to found a regular freight line between New York City and the ports of the eastern Mediterranean. Our commerce with the English colonies in South Africa has increased more rapidly than that of either England or Germany, though the two latter countries have their regular postal lines to South African ports. American agricultural implements have practically displaced German farm machinery in the Transvaal, because they are better, lighter and cheaper. No case has yet come on record of a German ship-mas-

ter refusing to carry American goods on the grounds that it might injure German trade. The complaints that American shippers cannot find transportation for their goods are heard in the halls of Congress, but not in the Boards of Trade. Our commerce with China is carried on mostly by American ships, but Japanese, English and German ships compete with our own for a share in this carrying trade, as also in the trade with Australia, India, and other parts of the world. On the margin of indifference it is probable that patriotism would decide the direction of commerce. For example, if a German sailing master had collected cargo in Chinese waters which he could take to Hamburg or New York with equal chances of making profits, he would probably go to Hamburg. But such cases are not numerous enough to make it worth while to pay nine or ten million dollars yearly in bounties to regular American postal lines on the chance of catching this trade.

It may be said that the captain of a regular liner has no choice but to take his cargo home, so that national trade is bound to be increased. It must be remembered, however, that subventioned steamers carry an insignificant part of the world's commerce. About two per cent of the British merchant marine receives subvention from the government and are bound by contract to sail over prescribed routes within certain time limits. A somewhat larger portion of the German marine is so situated :—six per cent would be a most liberal estimate. French sailers and steamers receiving the general subsidy are under no compulsion to increase French trade, and as a matter of fact choose the longest routes between foreign countries for their activities so as to earn the largest possible bounties. National commerce is a very secondary matter with them. In fact the disadvantage of being

compelled to sail regularly over the same definite course is urged as one of the chief reasons for the payment of subsidy to the postal lines. At the same time it is urged that regular communications are very much superior to an arrangement of voyages according to the needs of commerce. France has taken infinite pains to establish regular mail lines, and to encourage French shipping so as to promote her commerce, but her exports and imports have remained practically stationary. The United States has done almost nothing in these directions, and her commerce has increased enormously. The history of the world's commerce seems to show conclusively that the nationality of shipowners is quite a secondary matter in the development of trade.

POLITICAL ARGUMENTS FOR SUBSIDY

In the foregoing pages we have shown the improbability or impossibility of any economic benefit accruing to the people of the United States as a result of a bounty to American shipbuilding or navigation. It was shown that, first, no scientific basis for a bounty system of any kind exists; second, granting the validity of the argument for a bounty to industries of increasing returns, the necessary relation of supply and demand fails in the case of the shipping industries; third, granting the validity of the infant industry argument, which can not claim to be more than an economic faith, we found that this flexible term must be stretched to the cracking point in order to cover such a huge infant as the steel shipbuilding industry of the United States, while the fundamental assumption that capital needs the intelligent guidance of government fails utterly in this case.

There is, then, no sound economic leg for the theory of shipping subsidies to stand on. There remain, however, to be considered the political reasons.

Three political objects are alleged in support of shipping subsidies in the United States. First, the necessity of quick postal communications with our foreign possessions and other distant parts of the world; second, the necessity, or at least the desirability, of having large swift merchant steamers suitable for conversion into cruisers and fast transports in time of war; third the necessity of a large merchant marine to train up crews for our war navy.

There is no objection to the establishment of postal lines if the arrangements are made as matters of business, not of sentiment. For important reasons, an empire should control all necessary communications with its different parts. This does not mean the exclusion of foreign vessels from the transportation of the mails, passengers and freight. Necessary national postal services should, however, be established, for which reasonable compensation should be paid. Whether a general act is the best means of reaching this end may be doubted. Though it is generally impossible to have any real competition in bidding for ocean mail contracts, the services should be secured at rates as near as possible to competitive rates. The postmaster-general should be left as free as possible to arrange the kind of service, vessels, etc. These payments for carrying the mails should not be confused with subsidies to the general merchant marine. In practice postal subventions are always given with a view to the extension of commerce. If the payments exceed the actual cost of service, they are economically pernicious, though they may increase the shipping of the subsidized company, and even divert

commerce from more economical lines to the subsidized line. It appears probable that the rates of payment allowed in the last subsidy bill (1902) are considerably too high. True, the postmaster-general is authorized to reject all bids that do not appear reasonable to him. The rates are maxima and the services may be arranged for at any lower rates.

The policy of giving extra admiralty subventions to vessels convertible into cruisers in case of war is followed by England. The results are not satisfactory. Vessels built after admiralty plans are neither good merchant vessels in peace, nor good cruisers in war. The coal bunkers and machinery take up too much room for a merchant steamer; they are too slow to run away from the very swift vessels built solely for cruising, and too light to fight. The British Board of Admiralty reported in 1902 that the amounts already spent in admiralty subventions were practically wasted, and recommended that these payments be discontinued. War vessels are so highly specialized now that a merchant vessel cannot economically be made over into a naval auxiliary. Fast steamers built solely for commercial purposes make far better transport ships than do the convertible cruisers. The use of the vessels of the American Line as cruisers during the Spanish-American war did not furnish any evidence tending to modify these views. To expend large sums of money in creating a fleet of inferior merchant vessels capable of being converted into fourth rate cruisers is neither economical or politic. It is better then to have the mail steamers built solely for commercial ends. In any case the postal and admiralty subventions have no connection with building up the general merchant marine.

The necessity for subsidizing our ocean-going tonnage

in order to train up recruits for our navy is not pressing. The people interested in subsidy measures overlook the fact that the United States ranks next to Great Britain in tonnage of shipping to-day and has ranked second from the beginning of the nineteenth century. In ocean tonnage engaged in foreign trade, we rank third, close after Germany. It is asserted that subsidies to our fisheries are especially desirable, as most of the marines and sailors employed on our naval vessels come from the fishing vessels. If this is really the fact, perhaps the fishing bounties are justifiable. But so far as technical skill is concerned, a fisherman is no better instructed in the kind of labor required on board a war vessel than is a canal boatman. The idea that a large ocean-going marine is needed to strengthen our navy in time of war is utterly fallacious. A large merchant marine is in time of war a source of weakness, not of strength. Nobody takes seriously the provisions of the treaty of Paris declaring the shipping of an enemy to be neutral in time of war. Merchant vessels must be protected against the cruisers of an enemy, thus subtracting from the available force of the fighting navy.

ETHICAL CONSIDERATIONS

There are no good reasons, economic or political, for enacting subsidy legislation to aid our merchant shipping. On the other hand there are many weighty politico-ethical reasons for not giving bounties, even were they not economically wasteful and politically useless or worse. The tendency toward corruption or at least toward injudicious expenditure is irresistible. There is a danger which amounts to a certainty, "that in the

trade which has got a bounty and in other trades which hope to get one, people will divert their energies from managing their own business to managing those persons who control the bounties," as Professor Marshall puts it. Protected industries come to have a tremendous power over legislation and administration. This is an unavoidable consequence of protection. The larger and more powerful the industry, the larger and more peremptory become its demands for protection at public expense. We have had at least one notorious instance in our history of actual bribery by a steamship company to secure a larger bonus from the government. Our experience with subsidized railroads and industries protected by the tariffs should have taught us to distrust the whole principle of protection. Every aid given to private enterprises makes them the greater beggars, while it increases their ability first to ask, then to bribe, and finally to demand alms from the people.

The protectionist principle rests upon the assumption that legislatures are preternaturally wise and upright: All experience has shown that legislators frequently make errors of judgment, allow themselves to be guided more often by private than by political economy, and sometimes even sell themselves deliberately. Our own tariff legislation illustrates the extreme danger of enacting laws to benefit private undertakings. The tariff schedules are made up for the most part according to the desires of opulent "captains of industry." If a subsidy policy is once begun it may not be so easy to stop. Even though it could be shown that a proper subsidy judiciously administered would be economically beneficial, the impossibility of freeing the legislature from the corrupting influence of interested lobbyists would condemn the theory in practice.

Though the ethical considerations of distribution outweigh all other considerations, the protectionist does not discuss them at all. He only presents the side of production in a nation and that not correctly. We have heard altogether too much of the possibilities in production and not enough of justice in distribution. Distributive justice does not mean equality in sharing the product of industry. Just as little does it mean taking from the economically weak and helpless many and giving to the economically efficient few. It must be admitted that such a redistribution, could it be effected, would increase the productive efficiency of a society immensely. But no protective system can discriminate on these lines. In practice, protection gives an opportunity to a few to exploit the rest of the community. The favored ones are chosen by industries and not according to mental abilities. They are made up of all sorts from the strong, unscrupulous exploiter to the weak parasite. With regard to the mere production of goods, this new adjustment is less efficient, while from the standpoint of distributive justice it is wrong. The ethical standard of today requires that every man should receive as nearly as possible what he produces, unaided by governmental or private discriminations in his favor. If it be necessary to decrease somewhat our productive capacity to attain a closer approximation to this state, the sacrifice should be unhesitatingly made, for producing goods at a relative loss is not identical with economic prosperity. It is even conceivable that we could endure a little less "prosperity" and a little more distributive justice.

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LIST OF DOCTORAL DISSERTATIONS IN POLITICAL ECONOMY IN PROGRESS IN AMERICAN UNIVERSITIES AND COLLEGES ON JANUARY 1, 1905.

NOTE.—The appended list has been compiled from responses received to a circular of inquiry addressed by the Publication Committee to all institutions represented in the Council of the American Economic Association. Students not in actual residence are distinguished by an asterisk [*]. Students whose period of continuous non-residence exceeds three years are omitted from the list.

BRYN MAWR.

ELLEN DEBORAH ELLIS, A.B., Bryn Mawr College, 1901; A.M., same, 1901. Introduction to the study of sugar as a commodity. May, 1901.

BROWN.

JESSIE WILSON, Ph.B., Brown, 1898; A.M., Brown, 1899. The history of Rhode Island, 1760-1783.

COLORADO.

JAMES WILLIAM ELLISON, A.B., University of Denver, 1902; A.M., same, 1903. Financial history of Colorado. 1906.

COLUMBIA.

JIROSHI ABURATANI, A.B., Doshisha College, Japan, 1892. The evolution of the family, marriage and divorce in Japan since the feudal period. 1905.

EUGENE A. AGGER, A.B., University of Cincinnati, 1901; A.M., 1902. American state and local budgets. 1905-6.

ENOCH M. BANKS, A.B., Emory College, 1897; A.M., same, 1900. The economics of land tenure. Thesis in Press.

A. BERGLUND, A.B., University of Chicago, 1904. Steel and iron associations. 1905-6.

NORRIS A. BRISCO, A.B., Queen's University, 1898; A.M., same, 1901. The place of Walpole in Economics. 1906.

*FREDERIC M. DAVENPORT, A.B., Wesleyan, 1889. The social phenomena of religious revivals. Published in 1905.

MICHAEL M. DAVIS, A.B., Columbia, 1900. The sociological theories of Gabriel Tarde. 1906.

ALLEN BARBER EATON, Ph.B., Beloit College, 1899; A.M., Yale, 1902. Minor Political Parties in the United States. 1905.

R. L. FOUCHT, A.B., Butler College, 1903. Employers' associations.

JOHN LEWIS GILLIN, A.B., Iowa College, 1895; A.M., Columbia, 1903. The Dunkers in Europe and in America.

G. G. GROAT, A.B., Syracuse University; Pd.M., State Normal College; A.M., Cornell University. The history of labor legislation and the labor movement in the United States. In press.

WILLIAM BUCK GUTHRIE, A.B., Lenox, 1893; Ph.B., State University of Iowa, 1895. Pre-revolutionary socialism. 1905.

FRANK HAMILTON HANKINS, A.B., Baker University, 1901. Quetelet. 1906.

*WARREN L. HOAGLAND, A.B., Wesleyan, 1898; A.M., Columbia, 1900. The history of the New Jersey poor laws.

M. JACOBSTEIN, A.B., Columbia, 1904. Tobacco culture and tobacco industry in the United States. 1905-1906.

SAMUEL L. JOSHI, A.B., Madras University. The economic history of India.

PAUL U. KELLOGG, Time and piece wages in the iron industry.

*ROYAL MEEKER, A.B., Iowa State University, 1898. Shipping subsidies. Finished. To be printed in 1905.

- WALLACE E. MILLER, A.B., Ohio Wesleyan, 1897. The peopling of Kansas.
- THOMAS B. MOORE, A.B., Dutch State College, 1901. The hemp industry in the United States. In press.
- *HENRY R. MUSSEY, A.B., Beloit 1900. The iron ore production in the United States. In press.
- F. H. OLIVER, A.B., University of Toronto, 1902; A.M., 1903. The economic history of Rome up to the time of the Empire.
- ROBERT B. OLSEN, A.B., Whitman College, 1900; A.M., Columbia, 1901. The relation of local to general finance.
- *COMADORE EDWARD PRENEY, B.S., Wisconsin, 1895; A.M., Columbia, 1899. Economic bearings of American agriculture.
- *BERTHA HAVEN PUTNAM, A.B., Bryn Mawr, 1893. The enforcing of the statutes of laborers in England, 1349-1360. 1905-1906.
- GUY E. SNIDER, B.L., University of Wisconsin, 1901, and A.M., 1902. Railway taxation. 1905-1906.
- *EVERETT B. STACKPOLE, W.B., Bowdoin College, 1900; A.M., Columbia, 1902. Reciprocity with the South American Republics.
- CHARLES E. STANGELAND, A.B., Augsburg Theological Seminary, 1898; A.M., University of Minnesota, 1901. Pre-Malthusian theories of population. Published 1905.
- *ALVAN ALONZO TENNEY, A.B., Columbia, 1898, and A.M., 1899. History of the charity organization movement.
- EDWIN S. TODD, A.B., Wittenburg, 1893, and Ph.D., 1901. A social study of Clark county, Ohio. Printed in 1905.
- D. D. WING, B.S., Mass. Inst., of Technology, 1898. History of the greenback movement in Maine.

CORNELL.

- *ROBERT CLARKSON BROOKS, A.B., Indiana University, 1896. History of the street and rapid transit railways in New York City. Thesis completed. To be published in 1905.
- *WILLARD EUGENE HOTCHKISS, Ph.B., Cornell, '97; A.M., '03. The judicial work of the comptroller of the treasury as compared with similar functions in the governments of France and Germany; a study in administrative law. 1905.
- EMANUEL ALEXANDER GOLDENWEISER, A.B., Columbia, 1903. Russian Immigration to the United States.
- GEORGE DAVID HUBBARD, B.S., M.S., A.M.. The geographic influence of the precious metals in the development of the United States.
- *EDWIN WALTER KEMMERER, A.B., Wesleyan University, 1899. Money and credit instruments in relation to general prices. Thesis completed. To be published in 1905.
- CHARLES CLIFFORD HUNTINGTON, B.Ph., Ohio State University, 1902. A.M., same, 1903. The development of business organization in Ohio. To be completed 1906.
- ALBERT CHARLES MUHSE, A.B., Indiana University, '01; A.M., '02. The justification of taxation in relation to economic and political science. 1905.
- EARL WINTON PETTIBONE, A.B., Oberlin College, 1901. Coöperation among farmers in marketing produce.
- GEORGE PENDLETON WATKINS, A.B., Cornell, 1899. The analysis of utility; a contribution to the theory of economic consumption.

HARVARD.

- DWIGHT ST. JOHN BOBB, A.M., Harvard, '00; LL.B., Harvard, '03. Determination of rates.
- VANDEVEER CUSTIS, A.M., Harvard, '02. The theory of industrial consolidation. June, '05.
- STUART DAGGETT, A.B., Harvard, '03. Railroad reorganization. June, '05.
- EMERSON DAVID FITE, A.B., Yale, '97. The Economic history of the United States during the Civil War. June, '05.

- JOSEPH CLARENCE HEMMEON, A. M., Harvard, '04. The limits of State Interference. June, '06.
- WILLIAM MORRIS HOUGHTON, A. B., Bowdoin, '03. Anthracite coal combination.
- LINCOLN HUTCHINSON, A. M., Harvard, '99. Ten years' competition (1894-1903) for markets in Brazil, Argentina, Uruguay and Paraguay." Now complete.
- GEORGE RANDALL LEWIS, A. B., Harvard, '02. Mines and mining in Mediaeval England. June, '05.
- SELDEN OSGOOD MARTIN, A. M., Harvard, '04. The tobacco industry in the United States. June, '06.
- HORACE HENRY MORSE, A. M., Harvard, '01. The history of the trade of the British East India Company beyond the Straits of Malacca to 1617. June, '06.
- WILLIAM HYDE PRICE, A. M., Harvard, '02. The English patents of monopoly, 1550-1650. June, '05.
- SIMEON E. THOMAS, A. M., University of Iowa, '01. Commercial relations between the United States and Great Britain, 1807-1812.
- ALBERT BENEDICT WOLFE, A. M., Harvard, '03. The lodging house problem in Boston, with some reference to other cities. Now complete.
- CHESTER WHITNEY WRIGHT, A. M., Harvard, '02. The wool industry in the United States. June, '06.
- JOHN DANIELS, A. M., Harvard, '04. The negro in Boston. A study of the influence of environment on heredity.

JOHNS HOPKINS.

- GÖSTA ADOLFSSON BAGGE, Filosofie Kandidat, Royal University of Upsala, 1904. Trade unionism in Sweden.
- SOLOMON BLUM, A. B., Johns Hopkins University, 1903. The shop regulations of American trade unions.
- WILLIAM H. BUCKLER, A. B., University of Cambridge, 1890, and LL. B., 1891. Trade unionism and the standard wage.
- THEODORE W. GLOCKER, A. B., Johns Hopkins University, 1903. The structure of American trade unions.
- *HUGH S. HANNA, A. B., Johns Hopkins University, 1899. The financial history of Maryland.
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